11-2016

A Professional Development Certification Program for Instructors Teaching in the Online Environment and Student Completion and Success Rates at a Midwestern Community College: An Ex Post Facto Study

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A PROFESSIONAL DEVELOPMENT CERTIFICATION PROGRAM FOR INSTRUCTORS TEACHING IN THE ONLINE ENVIRONMENT AND STUDENT COMPLETION AND SUCCESS RATES AT A MIDWESTERN COMMUNITY COLLEGE: AN EX POST FACTO STUDY

by

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A DISSERTATION

Presented to the Faculty of

The Graduate College at the University of Nebraska

In Partial Fulfillment of Requirements

For the Degree of Doctor of Education

Major: Educational Studies

(Educational Leadership in Higher Education)

Under the Supervision of Professors Brent Cejda and Jiangang Xia

Lincoln, Nebraska

November, 2016

A PROFESSIONAL DEVELOPMENT CERTIFICATION PROGRAM FOR INSTRUCTORS TEACHING IN THE ONLINE ENVIRONMENT AND STUDENT COMPLETION AND SUCCESS RATES AT A MIDWESTERN COMMUNITY COLLEGE: AN EX POST FACTO STUDY

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University of Nebraska, 2016

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The increased demand for online courses in higher education, particularly at community colleges, highlights two concerns: 1) online courses have high drop-out rates and 2) the prevalence of part-time instructors teaching online courses. As demand for online increases, administrators are challenged to hire faculty who are knowledgeable about their content and also qualified to teach in the online environment. Since the quality of online programs depends upon the performance of faculty, community colleges that offer online programs should provide training and on-going support for their instructors. The literature indicates that a best practice in online education to facilitate student learning success is to provide professional development opportunities for faculty.

The purpose of this *ex post facto* case study was to examine whether the best practice of a professional development certification program for faculty who teach in the online environment contributes to increased student completion and student success rates in subsequent online courses. Specifically, this study examined whether differences in online student completion rates or student success rates (measured by the student's earned final grade) exist when measured before, during, and after instructors completed

the professional development certification program at one Midwestern community college.

This study included 32 instructors who completed the professional development certification program at Midwestern community college who taught online classes both before or during and after the semester they participated in the professional development. A paired samples *t*-test and a repeated-measures ANOVA were used to compare group means with $a = 0.05$. The present study found marginally and statistically significant differences in mean student completion and success rates. The greatest increase in mean student completion was observed the semester instructors participated in the program, while the greatest increase in mean student success rates was observed after instructors completed the professional development certification program.

Dedication

This completed dissertation is dedicated to my children whose lives were irrevocably altered during this journey. This dedication is not sufficient in exchange for the journey of the past five years. I love you both very much! I pray that someday you will understand this experience and also hope that I will have served as a role model for you in reaching your dreams.

Acknowledgements

I would like to thank many people who have contributed to this journey. First, to Brian, who planted the seed; thank you for your support over the past five years. Thank you to my advisor, Dr. Brent Cejda and to my dissertation co-chair, Dr. Jiangang Xia. You both have been invaluable resources to me and I appreciate your expertise and your time. To the members of my committee, Dr. LaCost, Dr. Steckelberg, and Dr. Torraco, thank you for sharing your insights with me. To my colleagues: Sarah, Dale, LuAnn, Paulette, Sheri, Nancy, Jon, Kevin, Luka, Mark, Jason, Tina, Jim, and many others who took time to inquire about my progress, thank you for your continued encouragement and your support. To my siblings, parents, and extended family: John and Katie, Shelly, Marsha, Mom and Michael, Dad and LaWanna, John and Dorothy, Marilyn, and Keith, thank you for believing in me, encouraging me, and also understanding my limited availability these past years. To my many friends who have walked on the peripheral of this journey: Audra, Julie, Amanda, Tabitha, Stephanie, Dana, Mindy, Angela, Jerri, Lynnett, Jennifer, Stacy, Brandi, and Elaine, your words of encouragement, and the many other ways you supported me and my children, mean more to me than you know. To Monica, thank you for understanding it all! Finally, to my family: Carl, Coyd, and Cyla, thank you for your support during these past years – I think it's time for a family vacation now!

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CHAPTER 1 – INTRODUCTION

Background

Distance education, particularly online courses, plays an "increasingly dominant role in community college education" (Dillon & Cintron, 1997, p. 93). In its report on Community Colleges and the Nation's Future, *Reclaiming the American Dream*, the American Association of Community Colleges (AACC, 2012) advocates the use of web-based learning environments stating they "hold great promise for improving the student experience and should be vigorously pursued" (p. 19). While online learning is in its infancy compared to traditional modes of education (Velez, 2009), "online education is one of the fastest growing enterprises in the United States" (Betts & Sikorski, 2008, p. 1). Data released by National Center for Education Statistics (NCES) in 2003 (as cited in Puzziferro-Schnitzer, 2005), indicate that 90% of public 2-year institutions offer distance education courses. This is substantiated by Allen and Seaman (2014) who report that 1,504 of the nation's 1,685 associate-granting institutions provide online offerings. Based on records from its annual membership database, AACC (2012) reported that community colleges enroll over 13 million students annually. Approximately 11,700,000 students at community colleges enroll in at least one online offering each year.

It is clear there is an increased demand for and enrollment in online courses, particularly those offered by community colleges (Bedford, 2009; Betts & Sikorski, 2008; Gerrain, 2004; Husmann & Miller, 2001; Maguire, 2005; Puzziferro-Schnitzer, 2005; Tipple, 2010; Weaver, Robbie, & Borland, 2008; Yang & Cornelious, 2005). Therefore, community college administrators must find "qualified faculty to assume the increasing workload" (Bedford, 2009, p. 1) caused by expanding enrollment in online

programs. Gerrain (2004) further describes this issue, stating “Community colleges and career schools have a dilemma on their hands. Student enrollments are up and the demand for online learning has increased, fueling the need for additional instructors” (p. 8). In the absence of full-time faculty, and with the desire to meet the student demand as well as minimize costs, community colleges are utilizing adjunct or part-time instructors (Cohen & Brawer, 2008; Jaeger & Eagan, 2009; Schnitzer & Crosby, 2003).

The increase in adjunct instructors is chronicled by Schmidt (2008) who cites data from the Department of Education indicating the percentage of part-time faculty members rose from 22% in 1970 to 46% in 2003. Tipple (2010) cites data from National Center for Education Statistics (NCES) that indicates 48% of instructional faculty in the United States are adjunct faculty members. The American Federation of Teachers (as cited by Offerman, 2010) offers even higher statistics claiming that 70% of all faculty members in colleges and universities are adjunct instructors. The increase of part-time instructors in community colleges parallels the national increase across all higher education institutions over this time period. In 1970, adjunct instructors teaching in community colleges represented approximately 27% of the total faculty (Schmidt, 2008), which was slightly higher than the national average at the time. Citing data from a Department of Education study, AACC (2012) reports that adjunct instructors now constitute 68% of the faculty in community colleges.

Statement of the Problem

A primary challenge facing online programs offered by community colleges is high drop-out rates and low retention rates (Aragon & Johnson, 2008; Holder, 2007; Park & Choi, 2009; Rovai, 2003; Stover, 2005; Tutty & Ratliff, 2012). Stover (2005) states

"everyone agrees that retention rates for distance education programs are lower than traditional on-campus programs" (p. 1). Drop-out rates for distance education courses reported by some community colleges are 20% higher than those for traditional classrooms (Aragon & Johnson). Tutty and Ratliff (2012) estimate the retention rates for distance education "range from 50% to as low as 20%" (p. 917). The apparent discrepancy between face-to-face and online retention rates is disturbing and community colleges must take action to effect positive change.

A corollary to the retention and attrition problem is the challenge of ensuring that online offerings are of a high quality. One indicator of student retention is if the students perceive they are enrolled in a quality online course and receiving quality instruction (Park & Choi, 2009; "Taking a Holistic View," 2006). There is a prevalent assumption that "students exposed to greater levels of instruction from part-time faculty members experience fewer meaningful interactions with those faculty members than they would with full-time instructors" (Jaeger & Eagan, 2009, p.174). This assumption is substantiated by the findings from a study of individuals who enrolled in, but did not complete, an online course at a rural Midwestern community college. Aragon and Johnson (2008) sampled two-thirds of the students who did not complete the course, with 28% of the sample indicating an issue with course design or instructor responsiveness as their primary reason for not completing the course.

Puzziferro-Schnitzer (2005) claims "virtual adjunct faculty have largely carried higher education into the cyber classroom" (p. 1). It is clear that community colleges have turned to online adjunct faculty members to help meet their students' needs, however, it is not clear that community colleges are doing what they should be to help

their adjunct instructors who teach in the online environment. Research exists regarding training for adjunct instructors (Coburn-Collins, 2014; Sawyer, Kata, & Armstrong, 2014; Strycker, 2008) as well as for online instructors (Clinefelter, 2012; Lorenzetti, 2013; Sammons & Ruth, 2007; Shattuck, 2009; Shah, Morgan, Stone, & Sterling; 2014; Sull, 2007). Virtual adjunct instructors are a "precious and invaluable resource" (Puzziferro-Schnitzer, p. 5) and should be treated as such, particularly at the community college level.

In a time when community colleges are being closely scrutinized for their low completion rates (American Association of Community Colleges [AACC], 2012), community college administrators overseeing online programs must focus their efforts and resources on training and supporting of both full-time and part-time instructors. Weaver, Robbie, and Borland (2008) support the belief that an institution's management should provide full and ongoing support for online learning and the development of online educators. A study conducted by Husmann and Miller (2001) reveals that administrators "perceive quality to be based almost exclusively in the performance of faculty" (p. 6). Husmann and Miller further report that administrators of distance learning programs believe that their largest investment should be in their faculty because the quality of their program is based upon the faculty's performance.

Best educational practices indicate an effective way for community colleges to address low retention and high attrition in online programs is to provide faculty development programs for their online instructors (Clinefelter, 2012; Shattuck, 2009) and to evaluate whether these professional development programs influence student

completion rates and the level of student success (Clay, 1999; Murray, 2002a; Murray, 2002b).

Framework

The framework for this study is derived from the concept of best practices or best educational practices. The idea of a best practice in education is borrowed from the fields of medicine, law, and management and is centered around improving performance (Bretschneider, Marc-Aurele, Jr., & Wu, 2005). In those fields, the term describes "solid, reputable, state-of-the-art work in a field" (Zemelman, Daniels, & Hyde, 2005, p. vi). Professionals, particularly in law and medicine, who follow best practices are cognizant of current research and are able to provide their clients with "the full benefits of the latest knowledge, technology, and procedures (Zemelman et al., p. vi). In the business world, the idea of a best practice was used generally to describe the activities or habits of businesses in the top five percent in their industry (Arendale, 2015).

David Arendale, Manager for the Educational Opportunity Association National Best Practices Center relays that the term best practices in education is used to refer to a "wide variety of activities and approaches that may or may not have been rigorously evaluated" (2015, para. 2). He further imparts that because of its overuse, the term has become "practically meaningless" (Arendale, 2015, para. 2). This idea is also expressed by Zemelman, Daniels, and Hyde (2005) who claim the term "best practice" has suffered "terminology drift" (p. v), meaning while it once was a useful idea, it has become overly popular or used in a careless manner and the consequence is that its current meaning has shifted from the original meaning.

In order to provide common language for educators, policy makers, and others, the Educational Opportunity Association National Best Practices Center defines best education practice as the “wide range of individual activities, policies, and programmatic approaches to achieve positive changes in student attitudes or academic behaviors” (Arendale, 2015, p. 4). The center also delineates three levels of best practices: promising education practice, validated education practice, and exemplary education practice. These levels build upon each other based upon the amount and quality of research that has been conducted on the practice. For example, a promising education practice includes a detailed description, including the theoretical basis and guidance on implementation, but has not yet been evaluated to show positive educational outcomes. A promising education practice may become a validated education practice, or an evidence-based education practice, once a rigorous evaluation has shown positive educational outcomes. If a validated education practice is replicated in multiple settings with similar positive outcomes, it becomes an exemplary education practice. Exemplary education practices are also denoted as “scale-up”, a reference to their potential successful implementation in other settings.

Bretschneider, Marc-Aurele, Jr, and Wu (2005) identify two necessary and sufficient conditions that are required to correctly identify a true “best practice”: completeness of cases and comparability of cases. The authors acknowledge that it is rarely possible to fully meet these conditions. There are two important items to consider in order to achieve comparability. The first is the definition of groups or cases to be compared, which must be formed on the basis of their similar characteristics. The second is understanding how to define the link between the practice being investigated, or the

action, and the outcome. In order to achieve completeness, they suggest that limiting geographic space is a better strategy than collecting random samples.

The idea of "scale-up" has also been referenced as extrapolation or applying a best practice from one situation to another (Ongaro, 2009). The extrapolation of a best practice is an attempt to provide generalized knowledge from a specific case that can potentially be applied in similar situations. Ongaro (2009) suggests a five step protocol for extrapolation of best practices. These steps include identifying the function, defining the practice, describing the practice, identifying the effects of the practice, and defining the key process context factors, or the conditions under which the practice works. The power of best educational practices can be found in the extrapolation or application of a best practice from one educational setting to another.

The literature indicates that a best educational practice in online education to facilitate student learning success is to provide professional development opportunities for faculty (Clay, 1999; Clinefelter, 2012; Hill, 2009; Shah et al., 2014; Shattuck, 2009). This case study attempts to identify whether a professional development certification program for online instructors, offered at one Midwestern community college, leads to increased online student completion and student success and is therefore an evidence-based best educational practice at this institution.

Purpose Statement

The purpose of this research study was to examine whether the best practice of a professional development program for faculty who teach in the online environment contributes to increased student completion and student success rates in subsequent online courses. This research study investigated a specific example of a faculty

development program for instructors who teach in the online environment at one Midwestern community college. Specifically, this study examined whether there are differences in student completion rates or the level of student learning success (measured by the student's earned final grade) before, during, and after instructors completed the professional development program to earn an online instructor certificate.

Research Questions

The primary reason for this study was to examine whether the best practice of a professional development program for faculty who teach in the online environment leads to increased student completion and success in online courses at a Midwestern community college. The following research questions were developed to address this question.

1. Is there a statistically significant difference in student completion rates in online courses before, during, and after an instructor completes an institutional professional development certification program for instructors teaching in the online environment?
2. Is there a statistically significant difference in student success rates (as defined by earning a transferable grade of A, B, or C) in online courses before, during, and after an instructor completes an institutional professional development certification program for instructors teaching in the online environment?

Overview of the Methodology

This quantitative case study was non-experimental in nature and utilized an *ex post facto* approach. Quantitative research designs test theories by examining specified

variables and the relationship among them (Creswell, 2014). The purpose of an *ex post facto* research design is to explain "educational phenomena through the study of cause-and-effect relationships" (Gall, Gall, & Borg, 2003, p. 295). *Ex post facto* is a Latin term meaning "after the fact" (Gay, Mills, & Airasian, 2006). *Ex post facto* studies examine data retrospectively.

For this study, data were analyzed to examine means before, during, and after an instructor completed a professional development certification program for instructors teaching in the online environment. The specific means examined were student completion rates and student success rates. A dependent, repeated measures *t*-test and a repeated measures analysis of variance (ANOVA) were used for analysis purposes. As *t*-tests compare two data points, the before and during means were grouped for comparison to the after data.

Creswell (2013) identifies case study research as an "approach in which the investigator explores a real-life, contemporary bounded system (a case)… over time, through detailed, in-depth data collection" (p. 97). The subject for this case study was a rural, public, two-year community college located in the Midwest. The selected institution served more than 3,000 students during the 2015-2016 academic year and approximately 40% of these students were enrolled in at least one distance education course. The Institution has been nationally recognized for its Assessment of Student Learning system and according to the Institution's Fact Sheet, was also ranked #1 in Student Success in its state. This particular community college was an appropriate choice for this study due to three main reasons. First, the institution has been offering online courses for more than ten years and the online offerings represent approximately one-

third of the credit hour production for the college. Second, the institution employs approximately three times as many adjunct faculty members as it does full-time faculty. Third, the institution offers a comprehensive professional development program for instructors who teach in the online environment.

This *ex post facto* research design provided the opportunity to analyze data to determine if completing a professional development certification program helps increase student completion and success rates. The results from this research study will be useful in evaluating whether this promising education practice can become a validated education practice with regards to providing professional development programs for faculty who teach in the online environment at this Midwestern community college.

Definition of Terms

For the purpose of this research project, the following terms shall be defined as follows:

Adjunct faculty. Sometimes referred to as a part-time faculty member, an adjunct instructor is a non-tenure track faculty member who is hired to teach a specific course. Adjunct instructors work on a term-by-term basis and often are not eligible for tenure and/or other benefits (Conley, Leslie, & Zimbler, 2002). The terms adjunct instructor and part-time instructor are used interchangeably in this research.

Learning management system (LMS). The learning management system is software that provides a virtual learning environment for students and faculty. Components often available in the LMS include various assignments and gradebook options, forum discussions, calendar, class roster, file sharing, participation or attendance

data, and different communication opportunities, such as email and /or blogs. Often, the LMS is integrated with an institution's student information system.

Distance Education. The Higher Learning Commission (HLC, 2015) defines distance education courses as "those in which all or the vast majority of the instruction and interaction occurs via electronic communication, correspondence, or equivalent mechanisms" (HLC, 2015, Definitions section, para. 1). HLC further stipulates that in distance education, faculty and students are "physically separated from each other" (HLC, 2015, Definitions section, para. 1) and that "regular and substantive interaction" (HLC, 2015, Definitions section, para. 3) occurs "either synchronously or asynchronously" (HLC, 2015, Definitions section, para. 3). In this research, the terms distance education and online education are used interchangeably.

Best Education Practice. The Educational Opportunity Association National Best Practices Center defines best education practice as the "wide range of individual activities, policies, and programmatic approaches to achieve positive changes in student attitudes or academic behaviors" (Arendale, 2015, p. 4). Arendale (2015) further delineates three levels of best education practices that build upon each other.

Promising Education Practice. A promising education practice refers to a best education practice that is presumed to yield positive educational outcomes, but has not yet been proven to do so (Arendale, 2015). The description of a promising education practice would include the theoretical basis and guidance on implementation.

Validated Education Practice. A validated education practice is a promising education practice that has been rigorously evaluated and proven to lead to positive educational outcomes (Arendale, 2015) Validated education practices are also referred to

as evidence-based educational practice. These terms are used interchangeably in this study.

Exemplary Education Practice. An exemplary education practice is an evidence-based education practice that has been replicated in multiple settings and proven to have similar positive outcomes (Arendale, 2015). Exemplary education practices are sometimes referred to as “scale-up” practices. These terms are used interchangeably in this study.

Assumptions

The overlying assumption within this research study is that the professional development certification program at this Midwestern community college helps prepare or further develop both full-time and part-time instructors to teach in the online environment. Further, it is assumed that institutions that hire and train instructors to teach in the online environment will benefit from understanding the findings of this research. While there is ample research on professional development for online instructors as well as helping part-time instructors acclimate to a new institution, there is little research in the area of training for those adjunct instructors who teach in the online environment. For example, adjunct instructors, particularly those who live at a distance from their institution, benefit from an orientation to the institution. At the core of education is the assessment of its effectiveness; institutions are constantly assessing their practices in an attempt to improve.

Delimitations

This research study seeks to identify whether a professional development certification program for faculty who teach in the online environment that follows best

practices as revealed in the literature is indeed a validated or evidence-based best practice. The design of this study analyzes data from one Midwestern community college to evaluate if completion of the intensive professional development certification program leads to increased student completion and success rates. This is a delimiting factor in this study.

Another delimitation of this study is the frequently changing nature of technology, and thus the online teaching environment. This research attempts, in part, to identify whether a professional development program for faculty who teach in the online environment can be considered an evidence-based best practice. With constant technological advancements, it makes sense that the nature of teaching in the online environment, as well as the institution's LMS tools that are used to teach in the online environment, will change frequently, as well. It is expected that the best practice professional development certification program from this study would change over time to accommodate changing technology and student needs.

Limitations

There were a number of limitations to this study:

- One limitation of this study is found in the research methodology. The findings suggest that the best practice of a professional development certification program may lead to increased student completion and success rates; however, since this study did not utilize an experimental design, the findings cannot be used to establish that it was in fact completion of the professional development certification program that caused the increase in student completion and success rates.

- In addition, since the intervention occurred at the instructor level and the outcomes were measured at the student level, factors other than instructors' completion of the professional development certification program may have influenced the student completion and success rates. There are other possible variables that were not controlled for in this study. One possible explanation that may have affected the findings in this study includes the passage of time. Perhaps instructors naturally improve their instructional methods with experience, which is gained over time teaching in the online environment. It is also possible that as students get more accustomed to the online learning environment over time they naturally improve their performance.
- A further limitation of this study was that there were not enough full-time certified instructors at the Midwestern community college in order to perform a statistical test when compared to part-time certified instructors.
- An additional limitation of this study is found in the data coding process. This study used existing institutional data, which was manually coded for the purpose of the data analysis. Any time the researcher must physically manipulate or code data for entry into a statistical package, a margin for error exists, particularly related to reliability and validity. This researcher took precautions to ensure the data were coded cleanly and consistently.

Significance of the Study

This study examined a faculty development certification program for both full-time and part-time instructors who teach in the online environment at a Midwestern

community college accredited by the Higher Learning Commission. Given the increase in online courses and the prevalence of part-time instructors at community colleges, the knowledge gained through this research was significant. Professional development improves the quality of instruction and therefore increases student learning and retention (Clinefelter, 2012; Kelly, 2012; Shattuck, 2009). Therefore, this research is significant to those interested in improving the student experience or increasing retention rates for online students. If online programs are going to be of quality, then professional development opportunities for all instructors, including adjuncts who teach in the online environment, need to be provided. This study is significant to researchers who are interested in the plight of the adjunct instructor, professional development, or the quality of online educational programs. An understanding of whether the current professional development effort by one Midwestern community college contributes to increased student success rates sets the stage for future studies that might further explore instructors teaching in the online environment and also lays the groundwork for further research related to the effectiveness of similar faculty development efforts at other institutions. In addition, findings of significant differences in online student completion and success rates before, during, or after instructors complete the professional development certification program lead to future experiments that can investigate the possibility of a cause-and-effect relationship. Ultimately, an increased awareness by both those responsible for implementing professional development activities and university administrators on the various professional development activities that colleges could implement to improve the quality of instruction and increase student learning can be realized through this research and subsequent research.

Organization of the Study

The remainder of this study is divided as follows: Chapter 2 provides a review of literature as it applies to the growth of distance education and the use of online adjunct instructors at community colleges, the challenges inherent in hiring and training adjunct instructors at a distance, and a review of best practices for training instructors to teach in the online environment. Chapter 3 describes the methodology utilized for this research. Chapter 4 presents the results of the research survey and an analysis of the findings. Chapter 5 discusses the implications of the research and recommendations for those charged with training full-time and part-time instructors to teach in the online environment. Chapter 5 also includes suggestions for further research.

CHAPTER 2 – LITERATURE REVIEW

This research study seeks to identify whether completion of a professional development certification program for faculty who teach in the online environment contributes to increased student completion and success rates at one Midwestern community college. This chapter is organized into four sections: background information, part-time faculty, online faculty, and online adjunct faculty. The chapter begins with background information related to distance education, the use of part-time faculty in community colleges, and professional development strategies. In this section, literature is presented that explains the dominant presence of part-time faculty teaching online courses, particularly at community colleges. For this reason, a section dedicated to part-time faculty that reviews the literature associated with recruitment, development, and the best practices for supporting part-time faculty is included. The online faculty section in this chapter encompasses the literature associated with recruitment, training, and the best practices for developing online faculty, including both full-time and part-time faculty. The chapter concludes with a discussion of professional development ideas and unique circumstances related to adjunct instructors who teach in the online environment at community colleges.

Background Information

"The footsteps down the hallowed halls of academia are rapidly being replaced with keystrokes zipping through cyberspace" (Holder, 2007, p. 245). It is commonly accepted that distance education opens the doors to higher education in the United States, providing access for more students to earn degrees and technical training. While traditional-aged college students are enrolling in distance education courses due to

scheduling difficulties or geographic issues or a desire for more flexibility in their life (Stumpf, McCrimon, & Davis, 2005), working adults constitute the largest group of online students (Taylor, 2002).

Distance education courses are comprised of “working professionals who want to advance their careers by taking courses part time, executives who travel frequently but want to earn graduate degrees, and parents who want to finish their undergraduate work without missing their kids' Saturday soccer games” (Carnevale & Olsen, 2003, para. 2). With its “potential to reach the disabled, the homebound, the isolated, and the economically and educationally disadvantaged” (Dillon & Cintron, 1997, p. 95), distance education provides the convenience, flexibility of time, and savings (Easterday, 1997) that many students need. Distance learning has been compared to the “joker in the deck” because it serves as a great equalizer (Maier, 2001, para. 1).

Increase in distance education in community colleges. Distance education, particularly online courses, plays an “increasingly dominant role in community college education” (Dillon & Cintron, 1997, p. 93). In its report on Community Colleges and the Nation’s Future, *Reclaiming the American Dream*, the AACC (2012) advocates the use of web-based learning environments stating they “hold great promise for improving the student experience and should be vigorously pursued” (p. 19). While online learning is in its infancy compared to traditional modes of education (Velez, 2009), “online education is one of the fastest growing enterprises in the United States” (Betts & Sikorski, 2008, p. 1). Data released by National Center for Education Statistics (NCES) in 2003 (as cited in Puzziferro-Schnitzer, 2005), indicate that 90% of public 2-year institutions offer distance education courses. This is substantiated by Allen and Seaman (2014) who report that

1,504 of the nation's 1,685 associate-granting institutions provide online offerings. Based on records from its annual membership database, AACC (2012) reported that community colleges enroll over 13 million students annually. Approximately 11,700,000 students at community colleges enroll in at least one online offering each year.

Given the mission of the community college is to provide access to higher education (Cohen & Brawer, 2008; Geller, 2001), it is not surprising that community colleges have played an integral role in paving the path of online education since they have a "reputation for adaptability" (Cejda, 2010, p. 7). Kozeracki (1999) notes that the issue of access is "central to the mission of the community college" (p. 89) and the way community colleges define *community* has changed due to the ramifications of online education allowing community colleges to "move beyond the geographic boundaries of their traditionally serviced populations" (Yee, 1998, para. 1). The community college "as the representative of our vision of educational opportunity for *all*, stands poised to demonstrate how distance education can provide education for *each"* (Dillon & Cintron, 1997, p. 100). Maier (2001) effectively sums up the opportunities provided by online instruction, saying the "cyber-Pandora's Box has been downloaded. We now have … the ability to reach a far wider population with a far wider scope of learning, and that's a good thing. We can't turn back, either, and that's a good thing too" (para. 11).

Community colleges are widely praised for making higher education an attainable goal for their community members; Cohen and Brawer (2008) summarize this by stating "Open-admissions policies and programs for everyone ensure that no member of the community need miss the chance to attend" (p. 35). Online delivery of courses has opened the doors wider by providing many students access to higher education in a

method that allows maximum flexibility of schedule. Student persistence and retention rates impact completion rates and these are lower in online courses than the rates for traditional, face-to-face courses. This indicates a need for community colleges to implement strategies to increase these rates to ensure that students not only have access to higher education, but that students are equipped to successfully complete their online courses.

Issues in distance education at community colleges. A report from the U.S. Department of Education in 2000 claimed "at least one-third of the 3,500 American colleges and universities were offering distance-learning courses" (Stumpf et al., 2005, p. 358). Thirty-nine percent of all distance education courses were offered at community colleges; 2-year institutions reach almost half a million more students than private and public 4-year institutions combined (Kozeracki, 1999). Cohen and Brawer (2008) state "an institution, or a program within that institution, that places few barriers to student matriculation cannot expect a high rate of program completion" (p. 439).

Distance education programs are hindered by high drop-out rates and low retention rates (Aragon & Johnson, 2008; Holder, 2007; Park & Choi, 2009; Rovai, 2003). Stover (2005) states "everyone agrees that retention rates for distance education programs are lower than traditional on-campus programs" (p. 1). Aragon and Johnson (2008) suggest these numbers are accurate at community colleges as well. Their research indicates some community colleges report online courses have a dropout rate that may be up to 20% higher than traditional face-to-face courses at their institution. Tutty and Ratliff (2012) estimate the retention rates for distance education "range from 50% to as low as 20%" (p. 917). The apparent discrepancy between face-to-face and online

retention rates is disturbing and community colleges must take action to effect positive change.

Student attributes. Some researchers have attempted to create a method to predict student success based on multiple variables, such as student attributes, attitudes, and academic readiness. Rovai (2003) attempted to synthesize the traditional retention and persistence models from Tinto and Bean and Metzner with the needs and characteristics of online students to create a composite model. He concluded "there is no simple formula that ensures student persistence" (p. 12). Kember, as summarized by Holder (2007), claims it is unlikely that a single formula that would predict a student's chance of success in an online course could be created as it would need to account for many complex factors that contribute to persistence and even if such a formula could be created that it would be "unwieldy if not unmanageable" (p. 257).

Holder (2007) surveyed students seeking an associate's, bachelor's, or master's degree who were enrolled in a growing Midwest university. Halfway through the first course in the program, students were given the opportunity to complete a questionnaire of 60 items, grouped into 12 subscales, each assigned to one of the four categories: Academics, Environment, Motivation, and Hope scale. Holder's study found three criteria that were likely to predict retention: Emotional Support, Self-Efficacy, and Time and Study Management. Holder's recommendation includes a caution to institutions to utilize the findings from these research studies appropriately. They should not be used "to exclude or discourage potential students from becoming effective online learners" (p. 257). Rather, institutions need to embrace the opportunity to positively impact student learning by empowering students to identify individual strategies to succeed. Beyond

simply learning about these characteristics, educators must implement strategies that will help students be more successful in the online environment.

Park and Choi (2009) surveyed 147 adult learners who either dropped out of or completed the online course in which they enrolled at a large Midwestern university. Of these participants, approximately two-thirds completed and one-thirds were dropouts. Park and Choi's focus was to identify specific differences between those adult students who drop out and those who persist in online courses. They reported statistically significant findings in two categories: organizational support and relevance. To be successful in online courses, adult students need to have support from their family and or other organizational structures. They also are more likely to complete their online courses when they perceive the course covers material that is relevant to them.

Perception of quality. Ensuring online offerings are of a high quality is imperative for institutions. One indicator of student retention is if the students perceive they are enrolled in a quality online course and receiving quality instruction (Park & Choi, 2009; "Taking a Holistic View," 2006). This is substantiated by the findings from a study conducted by Aragon and Johnson (2008), in which they surveyed students enrolled in online courses at a rural, Midwestern community college in the United States. The purpose for the study was to analyze differences between students who complete and students who do not complete their online courses. Approximately 62% of the students were classified as completers, with the remainder being non-completers. This study also sought to identify reasons students do not complete online courses. The researchers made up to three attempts to contact each of the non-completers to ask their reason for not completing their online course. A total of 56% of the non-completers participated in this

portion of the study. When asked why they did not complete their online courses, 28% of these non-completers indicated an issue with course design or instructor responsiveness as their primary reason for not completing the course. In a time when community colleges are being closely scrutinized for their low completion rates (AACC, 2012), this potential factor in student dropout is further cause for alarm for community college administrators overseeing online programs.

Increased need for adjunct faculty. It is clear there is an increased demand for and enrollment in online courses, particularly those offered by community colleges (Bedford, 2009; Betts & Sikorski, 2008; Gerrain, 2004; Husmann & Miller, 2001; Maguire, 2005; Puzziferro-Schnitzer, 2005; Tipple, 2010; Weaver et al., 2008; Yang & Cornelious, 2005). Therefore, community college administrators must find "qualified faculty to assume the increasing workload" (Bedford, 2009, p. 1) caused by expanding enrollment in online programs. Gerrain (2004) further describes the issue, stating "Community colleges and career schools have a dilemma on their hands. Student enrollments are up and the demand for online learning has increased, fueling the need for additional instructors" (p. 8). In the absence of available full-time faculty, community colleges are utilizing adjunct or part-time instructors (Cohen & Brawer, 2008; Jaeger & Eagan, 2009; Schnitzer & Crosby, 2003).

The increase in adjunct instructors is chronicled by Schmidt (2008) who cites data from the Department of Education indicating the percentage of part-time faculty members rose from 22% in 1970 to 46% in 2003. Tipple (2010) cites data from National Center for Education Statistics (NCES) that indicates that 48% of instructional faculty in the United States are adjunct faculty members. The American Federation of Teachers (as

cited by Offerman, 2010) offers even higher statistics claiming that 70% of all faculty members in colleges and universities are adjunct instructors. The increase of part-time instructors in community colleges parallels the national increase across all higher education institutions over this time period. In 1970, adjunct instructors teaching in community colleges represented approximately 27% of the total faculty (Schmidt, 2008), which was slightly higher than the national average at the time. Citing data from a Department of Education study, AACC (2012) reports that adjunct instructors constitute 68% of the faculty in community colleges.

Puzziferro-Schnitzer (2005) claims “virtual adjunct faculty have largely carried higher education into the cyber classroom” (p. 1). It is clear that community colleges have turned to online adjunct faculty members to help meet their students’ needs, however, it is not clear that community colleges are doing what they should be to help their adjunct instructors who teach in the online environment. As discussed in subsequent sections, much literature exists regarding training for adjunct instructors (Coburn-Collins, 2014; Gadberry & Burnstad, 2005; Green, 2007; June, 2013; Kelly, 2012; Sawyer et al., 2014; Strycker, 2008) as well as for online instructors (Clay, 1999; Clinefelter, 2012; “Indiana Wesleyan,” 2005; Lorenzetti, 2013; Sammons & Ruth, 2007; Shah et al.; 2014; Shattuck, 2009; Sull, 2007; Vail, 2006; Yang & Cornelious, 2005); yet, there are unique and challenging circumstances to consider for online adjunct instructors (Betts & Sikorski, 2008; “How to Get the Best,” 2009; Liebhaber, 2011; Offerman, 2010; Santovec, 2004; Schnitzer & Crosby, 2003; Sixl-Daniell, Williams, & Wong, 2006; Tipple, 2010).

Opportunities and challenges of utilizing online adjuncts. "Adjuncts are a precious and invaluable resource. The virtual faculty workforce is the fabric of distance learning, particularly at the community college level" (Puzziferro-Schnitzer, 2005, p. 5). The use of adjunct instructors is beneficial to the institution for a variety of reasons. The most common are the institution's ability to respond to enrollment demands in a timelier fashion (Strycker, 2008) and the financial benefits and savings afforded the institution by employing adjunct instructors (Offerman, 2010; Strycker, 2008). In addition, adjunct instructors are able to dedicate their time and energy to teaching, which is a vital factor particularly in the online environment (Hoyle, 2010). All of these are critical issues for community colleges today (AACC, 2012). However, administrators may need new strategies to fully maximize the "adjunct faculty's specialized expertise, flexibility, and passion for sharing real-world perspectives" (Tipple, 2010, p. 1).

Community college administrators may encounter challenges that are unique to the online environment when working with adjunct instructors. Strycker (2008) notes "many institutions experience a high degree of turnover among the adjunct faculty" (p. 1). In California, the reliance on part-time instructional labor in community colleges has continued to rise and a recent analysis of part-time faculty members in the state's community college system found a lack of stability within the part-time faculty workforce (Jaeger & Eagan, 2009). The issue of high turnover is prevalent in the online environment, as well. Betts and Sikorski (2008) state "turnover and attrition of online faculty and adjunct faculty is a reality" (p. 1). In addition, a prevalent assumption exists that "students exposed to greater levels of instruction from part-time faculty members experience fewer meaningful interactions with those faculty members than they would

with full-time instructors" (Jaeger & Eagan, 2009, p.174). In light of this research and because of the large number of adjunct instructors at community colleges, administrators must work to combat this potential student drop-out.

Administrators of online programs at community colleges are faced with troubling attrition rates for adjunct instructors as well as a potential increase in student drop-out rates because classes are taught by adjunct instructors and in the online environment. Santovec (2004) identifies three additional challenges that online administrators must confront when utilizing online adjunct instructors as "hiring people who you will never meet face-to-face, managing faculty who are geographically dispersed, [and] … involving and integrating adjuncts with the rest of the college community" (p. 8). Sixl-Daniell, Williams, and Wong (2006) expound on the management aspect as they describe a "complex community of … faculty spanning multiple time zones, cultures, nationalities and varying levels of technological capability and availability" (p. 2). In addition to Sixl-Daniell, et al., other researchers have also identified the likelihood that online adjuncts will be physically separated from the school (Schnitzer & Crosby, 2003; Tipple, 2010; Vail, 2006).

The role of the online program administrator. Administrators of online programs in community colleges must work to combat high online adjunct attrition rates and low online student retention rates, a task that may further be complicated by the physical distance between an online adjunct and the institution. Institutional costs of attrition are high as are the costs associated with low student retention. Betts and Sikorski (2008) discuss the short and long term effects caused by using inadequately prepared faculty in distance programs. Utilizing under-prepared faculty can negatively affect

faculty and student attrition rates as well as lower the institution's graduation rates. This practice can also open the institution to potential legal action and negatively impact the institution's reputation. Betts and Sikorski (2008) compiled a list of direct and indirect costs associated with high faculty turnover and also highlight the institution's opportunity costs associated with loss of faculty, loss of students, and ultimately the loss of business.

Therefore, administrators need to focus their efforts and resources on the most effective methods of training and supporting adjunct instructors. Weaver et al. (2008) support the belief that an institution's management should provide full and ongoing support for online learning and the development of online educators. A Delphi study of 26 administrators who manage distance learning programs conducted by Husmann and Miller (2001) reveals that administrators "perceive quality to be based almost exclusively in the performance of faculty" (p. 6). Husmann and Miller further report that administrators of distance learning programs believe that their largest investment should be in their faculty because the quality of their program is based upon the faculty's performance. In their paper presented at the 2003 Distance Learning Administration Conference, which was subsequently selected as a "Best Paper," Schnitzer and Crosby (2005) urge administrators of online programs at community colleges to realize that the institution's practices after hiring may be more important to meeting the institution's goals and increasing student learning than the selection process itself. Online programs administrators must "understand the inherent importance of recruitment, retention and incentive plans" for online adjunct instructors (Betts & Sikorski, 2008, p. 5).

The adopted leadership style of the online administrator is also critical to the success of an online program. Tipple (2010) suggests that effective administrators of

online learning environments must practice both transformational and situational leadership styles:

> The essence of effective online adjunct faculty leadership consists in education leaders creating an environment that combines inspiring and motivating online adjunct faculty towards a compelling vision (transformation leadership) with helping them collectively and individually achieve their task (situational leadership). (p. 4)

Tipple further explains that education leaders create the appropriate environment by "hiring, training and retaining excellent, committed, quality adjunct faculty who are students centric [*sic*], empathic and motivated" and by "providing an effective organizational and systems infrastructure that supports distance education students and faculty" (p. 4).

In light of the popularity of distance education offerings, the prevalence of adjunct instructors at community colleges, the special challenges associated with utilizing online adjunct instructors, and because research indicates lower attainment of student goals in online courses, particularly those taught by adjunct instructors, community colleges should work to combat high online adjunct attrition rates and low online student retention rates. The best way for community colleges to do this is to provide faculty development programs for their adjuncts who teach in the online environment.

While there are numerous studies related to training part-time or adjunct instructors in higher education and there are an increasing number of studies focused on faculty development for online education, there are relatively few that focus on training adjunct instructors who teach in the online environment. In addition to research focused

on faculty development for online adjunct instructors, this review of the literature includes research related to faculty development for both online instructors as well as adjunct instructors. The remainder of this chapter includes a discussion on professional development, considerations and best practices when working with adjunct instructors, considerations and best practices for developing faculty who teach in the online environment, and also the literature for recruiting, retaining, and developing online adjunct instructors.

Professional Development

Research indicates that teacher quality is the single most powerful influence on student achievement, yet faculty professional development programs that might help develop faculty often fall short. Eddy (2007) researched faculty development efforts in rural community colleges as compared to urban community colleges and found at both types of institutions "faculty development leaders believed that they were not currently offering programming at the level they felt they should" (p. 74). After completing an extensive literature review, Murray (2002b) concludes the following three themes exist related to faculty development in community colleges:

- Few community colleges make the effort to tie their faculty development programs to the mission of the college.
- Few community colleges attempt to evaluate the success of faculty development programs.
- Faculty participation in most faculty development activities is often minimal, and often those most in need do not participate. (p. 91)

Challenges faced by faculty at rural community colleges are similar to those across the educational continuum, including "navigating and balancing multiple demands because of shifts in institutional and student needs, a push to implement student-centered learning, increased community outreach, and the use of technology in teaching" (Eddy, 2007, p. 65). However, because community colleges are called to serve a diverse student population, faculty who opt to teach at community colleges must be well-versed in pedagogy in order to "develop diverse pedagogical approaches" to enable student success (Murray, 2002b, p. 90). Current faculty professional development programs at both rural and urban campuses "focus on classroom issues involving both students and the integration of technology and new teaching and learning strategies into classroom teaching" (Eddy, 2007, p. 74). Because teaching is highly valued at community colleges and because of the prevalence of underprepared students at community colleges, faculty professional development programs should focus on helping instructors acquire the skills to effectively use technology as well as to effectively work with the academically diverse student body (Eddy, 2007).

Because faculty at urban institutions may have access to professional development programs from universities, workshops, or other teaching resources that are not as readily available to faculty at rural community colleges, professional development programs are a critical component at rural community colleges (Eddy, 2007). Providing quality professional development programs can enhance recruitment and retention of faculty at rural community colleges (Eddy, 2007; Murray, 2007). Murray (2002b) further concludes the following elements are necessary if a community college is to develop and provide an effective faculty development program:

> administrative support that fosters and encourages faculty development, a formalized, structured, goal-directed program, a connection between faculty development and the reward structure, faculty ownership, support from colleagues for investments in teaching, and a belief that good teaching is valued by administrators. (p. 95)

Considerations for Adjunct Instructors

As student enrollment in higher education increased, so did the number of part-time adjunct instructors, particularly in community college courses. While part-time adjunct instructors outnumber every other category of instructor within higher education, it is well known that they have a comparatively low professional standing in the higher education workforce (Elizaga & Haynes, 2013). Terms such as “road scholars” and “freeway fliers,” which are often used to refer to adjunct instructors, exemplify the negative perceptions many have towards adjunct instructors (Elizaga & Haynes, 2013). To combat this perception and help adjunct instructors achieve their potential, administrators who employ adjuncts should be well-versed in the needs of this segment of their faculty.

Recruiting adjunct instructors. When recruiting and hiring new adjunct instructors, it may be helpful for administrators to recognize there are different categories of part-time instructors. In an effort to clarify these distinct groups of adjuncts, Leslie and Gappa (1994) developed a set of adjunct faculty categories. They used the following terms to identify these categories: Specialist, Career Enders, Freelancers, and Aspiring Academics. Understanding these categories may help administrators recruit the best qualified part-time instructor for a specific discipline or course.

More than half of all adjunct instructors are employed outside the education sector. The largest of the part-time instructor groups is comprised of individuals who often teach in specialized fields because of their knowledge in the field, these instructors are called the specialists, professionals, and experts. The next largest group of part-time instructors are the career enders. These individuals often choose to teach at the end of a successful career and may view this as a means to staying active and intellectually stimulated. The third segment within adjunct instructors are the free lancers. These individuals often look to teaching as a means to supplement income while pursuing their career or personal interests. Teaching as an adjunct provides the flexibility they need to advance their career goals or provides the satisfaction of working in varied fields. The aspiring academics are often newly doctoral completers or graduate students working on their dissertation. These individuals generally intend to seek a full-time teaching position. Administrators should understand that individual adjunct instructor's needs may vary based on which of these categories the instructor falls within. It is also useful to note that the needs of individual adjunct instructors will also vary throughout their tenure with an institution.

Developing adjunct instructors. Educational leaders need to be cognizant of the adjunct faculty member's needs, which change during the relationship with the institution. Strycker (2008) created a diagram to illustrate this continuum of the "life of an adjunct" (p. 2) at a particular institution. There are three phases in Strycker's continuum, each of which has two categories or sub-phases. The processes of Recruiting and Hiring fall under the Attracting phase; Support and Facilitate Learning are functions

during the Supporting phase; and the final phase of Retaining is comprised of Evaluate, Assess & Develop and Broadened Contributions / Growth.

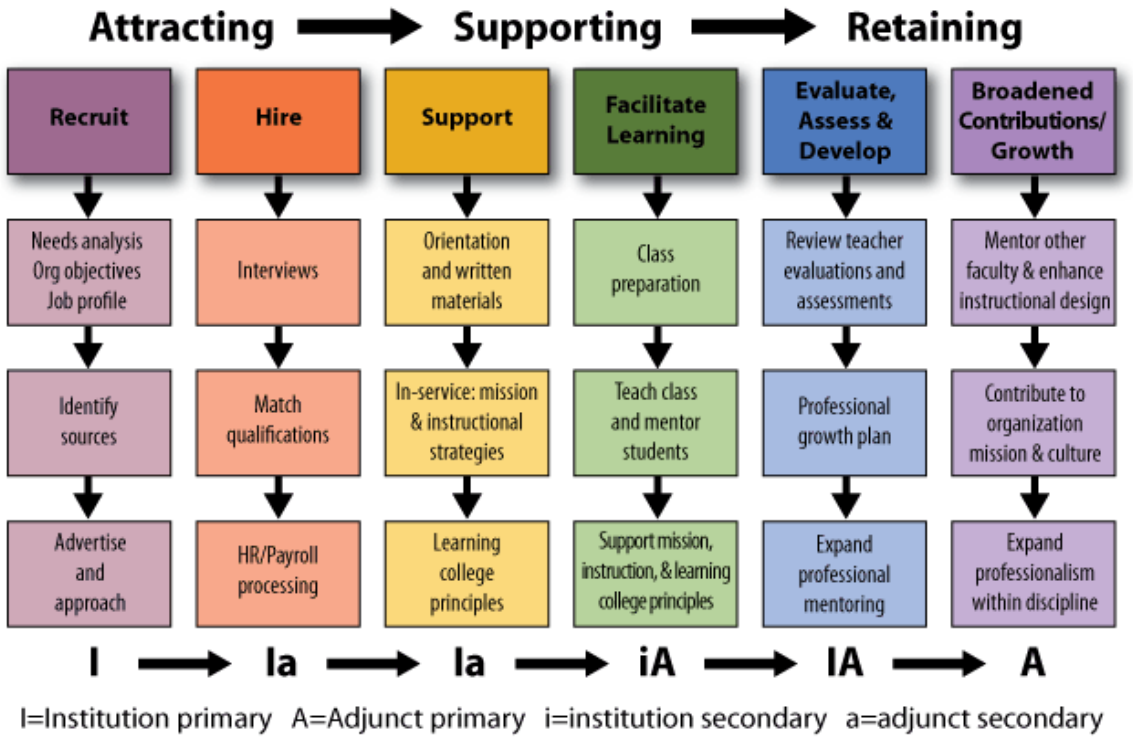


Figure 2.1 Strycker's Adjunct Continuum

Note: From "Recruiting and maintaining adjunct faculty," by W. K. Strycker, 2008, Madison Area Technical College, p. 3.

Strycker (2008) further notes that the onus of responsibility for each of these processes shifts between the institution and the adjunct over time. The institution has primary responsibility early in the continuum, the institution and the adjunct share responsibility during the majority of the continuum and finally, the continuum ends with the adjunct having primary and sole responsibility. To denote the differences between primary and secondary responsibility, Strycker chose to use capital and lower case letters. These representations are found along the bottom of Strycker's continuum. Strycker suggests that administrators can facilitate an adjunct's progress on the continuum by

addressing several key areas including orientation, basic support, departmental/ institutional support and inclusion, and evaluation / assessment.

Best practices for supporting adjunct faculty. In light of the increasing utilization of adjunct instructors, the Higher Learning Commission identified a best practices document for institutions working with part-time adjunct instructors (Coburn-Collins, 2014). This document written by the Director of the Office of Adjunct Faculty Support Programs at Saginaw Valley State University received the "Best Paper Award" in 2014. The paper identifies the following five best practices for supporting part-time instructors to help them be successful:

1. A thorough orientation to the institution, its culture and practices
2. Adequate training in fundamental teaching and classroom management skills
3. Both initial and ongoing professional development
4. A sense of belonging to the institution
5. Recognition for quality work that is perceived as appropriate and adequate (p. 1-2).

Thorough orientation to the institution. All new-to-the-institution adjunct instructors need to have an orientation. Prime among the objectives for this orientation, is the need to adjunct to become familiar with the college's mission so they can better understand what drives the institution ("Ten Things," 2006). This orientation should also include practical information, such as how to turn on classroom projectors, get access to e-mail, and secure parking passes (June, 2013). After holding orientations for adjunct instructors for a few years, many institutions begin to view them as critical to the success

of adjunct instructors (June, 2013). Other institutions have realized the importance of orientation sessions for returning adjunct instructors and have begun offering opportunities prior to the fall semester (Coburn-Collins, 2014).

Training in fundamental teaching and classroom management skills. It is essential for institutions to provide fundamental training for new adjunct instructors. Many of these individuals will be teaching for the first time and will need to learn fundamental skills, such as classroom management and pedagogy (Green, 2007; Sawyer et al., 2014; Strycker, 2008). Topics can vary as much as covering institution resources, such as library databases or working with students with accommodations to common problems, such as dealing with student plagiarism, disruptive behaviors in the classroom, or violent crimes on campus (June, 2013). Investing in a quality training program for adjunct instructors ultimately saves time, grief and expenses for instructors and administrators alike (de la Vergne, 2012).

Initial and ongoing professional development. In addition to the orientation sessions and initial training, institutions should provide ongoing professional development for adjunct instructors. Institutions should offer professional development opportunities that emphasize sound pedagogical practice and highlight institutional services, policies, and procedures (Sawyer et al., 2014). These professional development activities for adjunct instructors should be designed so they are "in sync with the changing role of the faculty, the changing student body, and changing technology" (Green, 2007, p. 35). To this end, Green (2007) identified ten areas that are critical for community colleges to include in adjunct development programs: (a) the first day and the first week; (b) student contact and interaction; (c) cooperative learning; (d) student

outcomes, assessment, and feedback; (e) relevance; (f) pace of instruction; (g) emotions and senses; (h) teacher enthusiasm; (i) teacher as model; and (j) evaluations.

Strycker (2008) underlies the necessity for an institution to commit to providing adequate support for adjunct instructors stating it "is imperative if optimal benefit is to be realized" (p. 6) while at the same time reporting that adjunct faculty at community colleges tend to be "dissatisfied with the amount of basic support they get from their institutions" (p. 1). While this vital support can be as simple as providing an Adjunct Faculty Handbook (Sawyer et al., 2014), it often takes the form of a series of workshops or brown bag events (Coburn-Collins, 2014). Two institutions provide formal versions of these workshops that cover a combination of technology topics and pedagogy topics: Johnson County Community College's Adjunct Certificate Training (Gadberry & Burnstad, 2005) or Macomb Community College's Adjunct Institute (Sawyer et al., 2014). Mentoring programs also help adjunct faculty improve their teaching and further their knowledge of the institution's culture (Coburn-Collins, 2014; "Ten Things," 2006). Administrators should recognize that supporting the institution's adjunct instructors is one way to help ensure that students receive a high-quality education (Sawyer et al., 2014).

Sense of belonging. It is imperative that administrators help part-time instructors feel included in the department and within the institution:

> Since they are not often invited to department meetings or institutional training opportunities, and since they often have minimal interaction with colleagues, they are less likely to feel a sense of community or to understand and buy into the broader goals of the institution. (Strycker, 2008, p. 1)

Cultivating the relationship between adjunct instructors and full-time faculty is one way to help combat this. As integral members of the teaching and learning community, Macomb's adjunct participate in college and social events. (Sawyer et al., 2014). Some institutions are intentional about including adjunct instructors in governance, such as departmental meetings or college committees ("Ten Things," 2006). Johnson County Community College acknowledges the important role that adjunct instructors have at the largest two-year institution in Kansas. The vice president has an adjunct advisory council that provides the opportunity for adjunct instructors to share their perspectives directly with the senior administration of the college (Gadberry & Burnstad, 2005).

Recognition for quality work. Administrators should endeavor to publicly acknowledge the contributions of adjunct instructors at their institution. In addition to financial reimbursement, many adjunct instructors crave this professional recognition. Referencing adjunct instructors, Darlaine Gardetto, Department of Behavioral Sciences at St. Louis Community College–Meramec, states "I think they really are hungry for intellectual community and for recognition of themselves as professors within a discipline" (Kelly, 2012, p. 8). Institutions can create events to honor their adjunct instructors and celebrate their dedication to the institution. One example is to host an annual awards banquet to recognize the contributions of adjunct instructors and present one adjunct faculty member with the annual excellence in teaching award (Coburn-Collins, 2014). Another example is the Adjunct Reception at Macomb Community College where adjunct instructors are recognized for the number of years they have served the institution (Sawyer et al., 2014).

Administrators who employ adjunct instructors must not only recognize the critical role these faculty members have, they should also endeavor to invest in their adjunct instructors (Green, 2007). According to de la Vergne (2012), there is a corollary between what adjunct instructors want and what institutions should want for their adjunct instructors. Adjuncts want an orientation to the institution and more professional development activities that will help them connect with other faculty in their department. Administrators should see the connection between fulfilling these needs and cultivating adjunct instructors who perform better in the classroom (de la Vergne, 2012).

Considerations for Online Instructors

Online learning is in its infancy compared to traditional modes of education (Velez, 2009); yet it is the fastest growing segment within higher education (Betts & Sikorski, 2008). Data released by National Center for Education Statistics (NCES) in 2003 (as cited in Puzziferro-Schnitzer, 2005), indicate that 90% of public 2-year institutions offer distance education courses. The increased demand for online courses has created an increased need for online instructors. Teaching in the online environment requires different teaching approaches and a different skill-set than traditional modes of teaching (Clinefelter, 2012; Sammons & Ruth, 2007; Shattuck, 2009; Weaver et al., 2008; Yang & Cornelious, 2005). To ensure that instructors who teach in the online environment offer quality experiences for their students, administrators should be cognizant of the specialized needs of this faculty and work to ensure proper opportunities are available for development.

Recruiting online instructors. Administrators have a responsibility to ensure a quality online environment for their students. It is critical that administrators “recruit

qualified faculty or instructors for their online education programs" (Yang & Cornelious, 2005, p. 12). Rahman (2001) identified a matrix that is helpful for administrators in targeting potential faculty members for their online programs. The matrix, referred to as the Four-A model, sorts faculty into one of four groups based on their orientation and skills. The four groups are *Attract, Avoid, Acquire, and Attend.* To use the Four-A Matrix, the administrator first determines if the potential instructor has a research emphasis or a teaching emphasis, then decides if the individual has an aversion to technology or is tech-savvy. By selecting the appropriate orientation and skills, the administrator should be able to determine which of the *A* words applies for this potential instructor.

Those individuals who are both technology oriented and have a teaching emphasis are the most suitable for teaching in the online environment and administrators should seek to *Acquire* these individuals. The category of instructors who are next most likely to succeed as online instructors are those who fall in the *Attend* group, those who have a teaching emphasis, but are technology averse. These individuals are followed by the *Attract* group, made up of individuals who are technology oriented, but have a research emphasis. Rahman (2001) encourages administrators to *Avoid* those individuals who are research oriented and averse to technology. Rahman's Four-A Matrix provides a framework to help administrators of online programs determine whether or not a potential candidate is likely to succeed as an online instructor.

Training online instructors. Instructors teaching in the online environment, like their counterparts in a physical classroom, need training in order to provide a quality learning experience for their students. Maguire (2005) cites the lack of an adequate distance education training program as a barrier to effective online teaching. Tipple

(2010) reports that faculty members who teach in the online environment need comprehensive training, particularly in technology. Sixl-Daniell et al. (2006) advocate that this training be designed so that new online instructors experience the online environment as a student as it helps the instructors "develop empathy for the on-line student" (p. 6). During the advanced training for online instructors, participants should learn how to design and moderate conversations in the online environment ("How to Get the Best," 2009). "Good instructional design and pedagogy are at the core of high-quality online courses" (Rovai, 2003, p. 14). To this end, all full-time and part-time instructors need access to instructional design support personnel (Aragon & Johnson, 2008).

Without proper training and an understanding of online learning, many instructors attempt to teach online courses by *moving* their face-to-face classroom into the online environment. "When educators stop trying to translate traditional classroom best practices into distance-learning venues, and start recognizing the unique advantages of digital education, they can unleash the power of the virtual classroom" (DeMaria & Bongiovanni, 2012, p. 37). It is imperative that administrators ensure their online instructors understand the online environment and create and deliver quality online courses. One indicator of student retention is if the student perceives they are enrolled in a quality online course and receiving quality instruction (Park & Choi, 2009; "Taking a Holistic View," 2006). Gerrain (2004) claims the instructor dramatically impacts a student's classroom experience. A parallel can be drawn to a student's experience in the online environment, as well. Instructors who are fully vested in a program will be more responsive and create higher quality courses.

Similarly to Strycker's (2008) continuum for the development of adjunct instructors, Clay (1999) suggests that online faculty also develop from the early stages of learning about online instruction through implementing their ideas to becoming proficient in the art of teaching in the online environment. Clay suggests that there are four sequential stages, referred to as *Awareness*, *Consideration*, *Implementation*, and *Innovation*. Clay identified the main faculty concerns and needs in each of the four stages. It is important for administrators to provide opportunities for instructors to explore and advance through each of the four stages. Examples of two online faculty training programs are highlighted.

The Indiana Wesleyan model for online faculty training. Indiana Wesleyan University (IWU) developed an Online Facilitator Orientation course for all instructors who wish to teach online classes ("The Indiana Wesleyan Model," 2005). This three-week course is provided in the online environment and the model consists of three interwoven themes. Potential instructors learn how to utilize the delivery platform or learning management system (LMS), how to facilitate discussions in the online environment, and are exposed to the culture of the college. Because "many people still believe online learning is dehumanizing" (p. 4), special care is taken to model an appropriate online learning experience so that potential instructors will be better equipped to help their students.

During week one, the potential instructors experience the (LMS) as if they were a student ("Indiana Wesleyan," 2005). They learn various features of the LMS, such as how to post a discussion forum and how to submit an assignment. They also learn about IWU as an institution, including the vision, mission and core values statements. Lastly,

they complete a web quest assignment to become familiar with the technical support of both the institution and the LMS.

Week two provides the opportunity for potential instructors to interact with the LMS as though they were an instructor ("Indiana Wesleyan," 2005). Potential instructors discuss the effectiveness of online learning, write and post a welcome announcement, discuss how they will influence learning in a standardized course, and complete a quiz over the roles and expectations of facilitators and students.

The course is designed to model collaborative learning in the online environment during the third and final week. The potential instructors are divided into groups in order to discuss "three student scenarios they might face in their online class" ("Indiana Wesleyan," 2005, p. 4). They also reflect on what they think will be their biggest challenge as an online facilitator, how they will overcome the challenge and if they have any unanswered questions or concerns.

Once the initial three weeks are completed, the potential instructors have the opportunity to "shadow classes being lead [*sic*] by experienced facilitators" ("Indiana Wesleyan," 2005, p. 5). As time allows, administrators might consider creating a video presentation highlighting several examples of best practices in online courses across the institution. Allyn Beekman, director of the Center for Distributed Learning at IWU claims the Indiana Wesleyan Model has become a critical element in their hiring process. He also states that with the online faculty training program, "the foundation has been laid to help potential facilitators become outstanding online facilitators" (p. 5).

The U21 Global Consortium faculty training program. U21 Global is an online graduate school that is owned by a consortium of international universities and one

textbook publisher (Sixl-Daniell et al., 2006). In an effort to uphold the prestigious universities' reputations, a framework for quality assurance was developed that incorporates the processes for hiring, training, supervising and evaluating online adjunct faculty members.

The Faculty Training Program (FTP), the solution to the training needs for U21 Global, is conducted quarterly (Sixl-Daniell et al., 2006). Like the IWU model, it is organized over a three-week period. U21 Global expects potential adjunct instructors will spend 30 hours over the three weeks working on the requirements of the FTP. The course is designed to provide the potential instructor with both the student experience and experience with the role of the professor. Emphasis is placed on the benefit of the student experience as it is "considered particularly important in order for them to develop empathy for the online student" (p. 6).

Participants in the FTP will have a similar experience to those participants in IWU's Online Facilitator Orientation course. The activities include posting in an asynchronous discussion board, participating in a synchronous online chat session, and submitting multiple assignments (Sixl-Daniell et al., 2006). The potential instructors are also exposed to U21 Global's LMS as well as the consortium's "case-based, problem-solving approach" (p. 6). One distinct difference between the two programs is that participants in FTP will also have the opportunity to grade an assignment. This may seem like a simple task; however, the global characteristic of U21 Global creates a challenge due to varying meanings of grading standards around the world.

There are six outcomes of the U21 Global Faculty Training Program explaining the skills that participants should be able to complete (Sixl-Daniell et al., 2006). These include the ability to:

- recognize the importance of maintaining a presence online;
- demonstrate the ability to communicate effectively online;
- manage a multicultural learning environment effectively online;
- employ a number of techniques for encouraging online discussion and peer learning;
- grade according to U21Global guidelines to achieve consistency across subjects; and
- participate with other adjuncts and with full-time faculty members in online 'communities of practice' addressing issues related to online learning. (p. 6)

The Faculty Training Program is one part of the stringent process to becoming an online adjunct faculty member for U21 Global (Sixl-Daniell et al., 2006). Those who successfully complete it must also be approved by the U21pedgogica (U21p), the external quality assurance entity for U21 Global. U21p examines the candidate's performance during the FTP, curriculum vitae, as well as additional reports. The rigorous training and selection standards of the U21 Global graduate school may be too rigorous for a single institution's training program. However, community college administrators can integrate the stages of *certification* and *approval* into their comprehensive training programs for online instructors.

Best practices for developing online instructors. Regarding online faculty development, Clinefelter (2012) compiled a best practices document. This document is divided into six sections, including a summary. The first section identifies some of the differences found between online and traditional face-to-face instruction and the second section identifies basic issues that need to be addressed, such as compensation and expectations for faculty. Recruitment of quality online faculty is the subject of part three. The fourth section focuses on orientation and development of online faculty members. The fifth section discusses supervisory practices for online faculty.

Parallels can be found between Clinefelter's (2012) work and Coburn-Collins' (2014) work related to adjunct instructors. The fourth and fifth sections of the "Best Practices in Online Faculty Development" (Clinefelter, 2012) directly correlate to the "Best Practices for Supporting Adjunct Faculty" (Coburn-Collins, 2014). The fourth section focuses on orientation and development of online faculty members. Section four also calls for continuous faculty development opportunities for online faculty members. This is largely due to rapidly evolving technologies and their application to online teaching (Clinefelter, 2012). The fifth section discusses supervisory practices for online faculty. According to Clinefelter, there are three benefits to developing a strong supervisory system: it establishes the means for communication between the faculty and supervisor, it helps ensure growth and development of the online faculty members, and it helps indicate the instructors' value to the institution.

The five goals of the orientation program. All faculty members teaching online should participate in an orientation program prior to their first teaching assignment

(Clinefelter, 2012; “The Indiana Wesleyan Model,” 2005). Clinefelter (2012) identifies five goals for the orientation program that can be summarized as follows:

1. Participants learn the features of the institution’s LMS,
2. Faculty members learn and practice the principles of quality online instruction,
3. Prospective faculty members are exposed to the assessment process,
4. Participants learn the institution’s mission, history, organization, and values,
5. The orientation program offers a good opportunity to explain or reinforce the expectations for faculty performance. (p. 14).

The orientation programs for online instructors should include other topics such as “online teaching and learning strategies, ADA-compliance and course design, and class management” (Schnitzer & Crosby, 2003). Vail (2006) suggests that “new hires also learn about the quirks of online communication” (p. 4) explaining that online instructors must be conscious of written interactions with students as it lacks the non-verbal component of face-to-face communication. These topics and others that focus on the unique qualities associated with online learning and the online environment must be thoroughly covered during this training.

Continuous faculty development program. Because online education is constantly evolving, it is imperative for institutions to provide ongoing faculty development opportunities for their instructors who teach in the online environment (Clay, 1999; Clinefelter, 2012; Shattuck, 2009; Sull, 2007). While one-on-one training is the most effective for instructors, it is costly and time-consuming (Clay, 1999). Training

programs can be comprised of a variety of parts, such as webinars, web-based tutorials, group sessions, observations of other distance courses, and instructor-led courses (Clay, 1999; Clinefelter, 2012). Thomson Delmar Learning created an online Faculty Development Program to ensure that instructors have an opportunity to be trained in online pedagogy. One of the program's creators, Terry Taylor, states "high quality education starts in the classroom with high-quality well-trained faculty" (Gerrain, 2004, p. 8). Online instructors must constantly learn new technologies and new tools for delivering course content (Clinefelter, 2012). Gerrain (2004) further highlights the importance of having exemplary online faculty, stating "faculty development has become a critical pressure point for schools. Those with talented faculty increase enrollments and retain students. Those without are doomed to mediocrity" (p. 8). The Director of the Center for Distributed Learning at Indiana Wesleyan University, Allyn Beekman, states "teachers and trainers are very knowledgeable and comfortable with traditional classroom instruction. However, this knowledge does not fully prepare them to jump directly into the online mode of instruction" ("Indiana Wesleyan," 2005, p. 5).

Strong supervisory practices. Clinefelter (2012) states there are three benefits to a strong supervisory system including establishing the means for communication between the faculty and supervisor, helping ensure growth and development of the online faculty members, and providing the means to show instructors their value within the institution. Components of the supervisory system should include the opportunity for mentorships, classroom observations, and regular annual evaluations (Clinefelter, 2012). Mentorships work best when the mentor is selected from within the same department as the new online instructor (Yang & Cornelious, 2005). A schedule for classroom observations

should be developed at the department or institution level and new online instructors should be made aware of the frequency (Clinefelter, 2012). Conducting annual reviews to monitor online faculty may increase retention for faculty teaching in the online environment (Betts & Sikorski, 2008). The annual evaluation reviews should include a conference between the online instructor and the supervisor, typically after a classroom observation has been conducted (Clinefelter, 2012). Student satisfaction surveys may also be considered during the instructor's performance review (Clinefelter, 2012).

Administrators who hire online instructors must understand the evolutionary nature of teaching in the online environment. They should seek to recruit qualified faculty who want to teach in the online environment and who are well-suited to the task. They should offer initial orientation sessions to help the instructor become familiar with the institution and the LMS. They should also offer ongoing faculty development opportunities to help online instructors continue to learn about the online environment and new emerging technologies. Administrators should also invest in their instructors by conducting annual performance evaluations.

Considerations for Online Adjunct Instructors

"Virtual adjunct faculty have largely carried higher education into the cyber classroom" (Puzziferro-Schnitzer, 2005, p. 1). While there are many benefits to utilizing online adjunct instructors, there are also unique and challenging circumstances to be considered (Betts & Sikorski, 2008; "How to Get the Best," 2009; Liebhaber, 2011; Offerman, 2010; Santovec, 2004; Schnitzer & Crosby, 2003; Sixl-Daniell et al., 2006; Tipple, 2010). To decrease potential student drop-out rates for sections taught by part-time instructors and to combat high attrition rates for adjunct instructors, it is imperative

for administrators to carefully recruit adjuncts to teach in the online environment. After hiring the best candidates, administrators should be diligent in their efforts to retain and develop adjunct instructors who teach in the online environment.

Recruiting online adjunct instructors. Administrators of online programs striving to ensure a quality online experience for their students should start with recruiting quality online adjunct instructors. “Recruiting, hiring and developing adjuncts for a distance learning program is no easy task” warn Schnitzer and Crosby (2003, p. 1). Tipple (2010) reports that administrators should seek online adjunct faculty who display enthusiasm for their subject matter, enjoy working with students, and want to focus on teaching. When speaking about the best online instructors, Dana Offerman, provost and chief academic officer at a major university, states adjunct faculty who are most likely to succeed in the online environment are those “who are primarily interested in teaching and who are willing to commit to exploring different teaching modalities and learning to facilitate a discourse online” (“How to Get the Best,” 2009, p. 7).

When hiring adjunct instructors to teach in the online environment administrators should utilize Rahman’s Four-A Matrix (2001), which provides a framework to assess a potential candidate’s technological skill and interest in teaching to help predict whether or not the candidate is likely to succeed as an online instructor. Administrators should also consider Schnitzer and Crosby’s (2003) list of eight types of online adjunct candidates, which is similar to Leslie and Gappa’s (1994) categorization of part-time instructors. Schnitzer and Crosby’s list identified the following eight groups: The Philosopher, The Traditional Teacher, The Moonlighter, The Full-Time Part-Timer, The Administrator, The Graduate, The Seeker, and The Retiree. While Leslie and Gappa used

"Career Enders" and Schnitzer and Crosby used simply "The Retiree," both categorizations refer to the increasing number of instructors who migrate to the online environment either at the end of their career or continue teaching online courses after retirement. Similarly, the terms Specialist and Moonlighter both refer to an individual who is employed in a full-time position outside the field of education, likely in the area in which they teach. Bedford's work (2009) identified the emerging trend of increasing numbers of professional online adjuncts, previously known as Freelancers or The Full-Time Part-Timer. Understanding these different categories of adjunct instructors, as well as the instructor's specific technological skills and area of emphasis, will equip administrators of online instructors to better meet the adjunct's needs.

Once a hiring decision has been made, the institution should provide adequate opportunities for both initial training and ongoing development activities. The Social Studies department at Rio Salado Colleges has developed a seven step onboarding process (Marble & Case, 2013a). The onboarding process should be thought of a more than just a training process for new online adjuncts: "onboarding provides tools needed for adjunct faculty to be successful up front and continually provides training opportunities throughout their first three semesters of teaching" (Marble & Case, 2013a, p.5). The onboarding process includes an orientation to Rio Salado, department-specific training, mentoring, and evaluations (Marble & Case, 2013a; Marble & Case, 2013b).

Retaining online adjunct instructors. In order to combat high turnover rates among qualified online adjunct faculty, administrators of online programs need to establish policies and procedures that support the investment in adjunct faculty members. "Finding adjuncts is only half of the staffing battle. Keeping them is sometimes even

more difficult" ("Nine Practical Ideas," 2010, p. 1). Schnitzer and Crosby (2003) claim "Excellent, committed, quality instructors are retained by excellent, committed, quality faculty support" (p. 2). They further state that adjunct instructors "want to teach for institutions that demonstrate a commitment to quality, and to its employees' professional and personal development and overall satisfaction" (p. 2). Puzziferro-Schnitzer (2005) later adds "adjuncts who know that they are working for a professional organization are more likely to feel a sense of pride in their affiliation, and feel accountable to the institution" (p. 5). Dr. Kimberly Hardy, Dean of Instruction and Student Success at Florida Community College at Jacksonville states "the extra effort put forth in helping your online adjuncts feel connected and supported will go a long way in helping you ensure a stable roster of quality adjuncts, saving you time and money in the long run" ("Nine Practical Ideas," 2010, p. 7).

Online administrators at community colleges need to understand that everything the institution does after the initial hiring should be done with an eye towards retaining and further developing the adjunct instructor. Betts and Sikorski (2008) offer the following strategies that may increase faculty retention in online programs: financial incentives for teaching online classes, training in new pedagogical teaching styles, robust faculty mentoring or coaching programs, establishing online communities for faculty, and conducting live learning laboratories and think tanks for course collaboration. Administrators should also ensure the institution has increased technical support systems, developed policies and procedures that directly address online courses, and defined standard benchmarks for quality online teaching.

Developing online adjunct instructors. Administrators of online programs, particularly in community colleges where adjunct instructors are prevalent, should develop a comprehensive training and support system to fully develop their online adjunct faculty members. Schnitzer and Crosby (2003) recommend this training include "information for administrative and technical support points of contact, an explanation of administrative procedures, instructional procedures, instructional requirements, technical requirements, technical resources for teaching online, curriculum processes, copyright guidelines, and standards and expectations for distance learning instruction" (p. 5). Yang and Cornelious (2005) outline specific needs for online instructors such as how to interact with students solely via the internet, establish a welcoming and inviting online environment that encourages students to become actively involved in their learning, facilitate online discussions, and handle disruptive students in the online environment. They also share their belief that one-time online faculty training is essential, but not sufficient to develop effective online instructors and advocate for ongoing training and support. Rio Salado's training and development program, referred to as the onboarding process, spans the adjunct instructor's first three semesters at the institution (Marble &Case, 2013a; Marble & Case, 2013b).

Community college administrators of online programs who plan to develop and implement a comprehensive online adjunct instructor training program can learn much from existing training programs at other institutions. Most institutions provide online instructor training for both full-time and part-time faculty. Institutions should provide additional training opportunities for adjunct faculty members to ensure they are knowledgeable about institutional policies, but it is beneficial when adjunct instructors

and full-time instructors complete the same online instructor training program ("The Indiana Wesleyan Model," 2005; Liebhaber, 2011; Offerman, 2010; Puzziferro-Schnitzer, 2005; Schnitzer & Crosby, 2003; Vail, 2006; Velez, 2009). Training programs for online adjunct instructors should include an orientation to college policies and practices, technical training and support, communication with key personnel at the college, mentoring opportunities, and evaluations.

Orientation to college policies and practices. Because many adjunct instructors have "misconceptions or different expectations about online teaching and learning" (Schnitzer & Crosby, 2003, p. 4) and because "expectations, processes, policies and instructional cultures" vary widely among online programs (Puzziferro-Schnitzer, 2005, p. 3), new online adjunct instructors will benefit from an orientation to the institution (Lorenzetti, 2007; "Nine Practical Ideas," 2010; Vail, 2006; Velez, 2009). Schnitzer and Crosby (2003) suggest that this orientation should include virtual "meet and greets" with the institution's administrators as well as key support staff.

Puzziferro-Schnitzer (2005) provides further support for the importance of clearly defining expectations because "instructional priorities, goals, constituencies, and definitions of excellence" vary across institutions and "many adjuncts teach simultaneously at multiple institutions" (p. 5). Vail (2006) explains that "first-time adjunct faculty may not know how to grade or may not know the expectations or standards of the university" (p. 6). It is the administrator's responsibility to explain these institutional policies to new online adjunct instructors.

The orientation should introduce the new adjunct to the institution's policies and expectations, but it should also incorporate the institution's dedication to ensuring quality

and how this will be monitored. John Orlando, associate program director for a master's level online program, (as quoted in Vail, 2006) discusses the importance of monitoring online faculty's compliance with institutional policies:

> In a face-to-face classroom, [the instructors] are on an island. But in an online class, everything they do is saved. E-mails, grades, notes are saved. They have to get used to this. It can be a change for some teachers who want complete autonomy. But we can't allow that. We have to make sure standards are upheld. (p. 7)

An effective orientation will cover many topics and because it serves as the adjunct instructor's first real experience with the institution, it should be used to help set the tone for the relationship between the adjunct and the institution. Tipple (2010) cautions administrators to be aware of the "new faculty member's ability to absorb all this material" (p. 7) and recommends that reference materials, such as an adjunct faculty handbook, be available to adjunct faculty to supplement this initial orientation session.

Technical training and support. While many online adjunct instructors will be technologically savvy, it is vital that both initial training opportunities and long-term technical support be provided. Pointing to the success of the program at Florida Community College at Jacksonville as evidence, Dr. Kim Hardy, dean of instruction and student success for the Open Campus claims the "key to retaining quality online adjuncts is a comprehensive support program" ("Nine Practical Ideas," 2010, p. 1). The first part of a three-prong training program at Excelsior College is to ensure online adjuncts have access to a basic tutorial on their learning management system ("How to Get the Best," 2009). Tipple (2010) suggests that administrators can look to their student support

systems for ideas to help support adjunct faculty “many of the techniques offered for effective online student support are equally applicable to integrating online adjunct faculty into the educational community” (p. 1). Offerman (2010) suggests that institutions utilize their current HELP desk to provide “technical support 24x7 to adjunct faculty” (p. 7).

Communication and inclusion in the college community. Once the online adjunct instructor has successfully completed the advanced online training course and is teaching an online course, the administrator should make every effort to help the adjunct integrate into the college community. According to Puzziferro-Schnitzer (2005), frequent contact from the community college is the most important factor in faculty motivation and involvement. She further states that “adjuncts are professionals, and as professionals, they value timely and accessible support” (p. 2). The importance of communication is further illustrated in the article “How to Get the Best Out of Online Adjuncts” (2009) that states “another key to keeping faculty motivated and productive is the degree to which the institution reaches out and communicates with its faculty” (p. 3). Offerman (2010) encourages administrators to “develop a clear strategy for communicating with adjunct faculty” (p. 7). Consistent and proactive communication is one of the ways to support online adjuncts (“Nine Practical Ideas,” 2010). Specific ideas include holding virtual staff meetings and emailing quarterly newsletters (“How to Get the Best,” 2009; “Nine Practical Ideas,” 2010). Liebhaber (2011) encourages administrators to check in with online adjunct instructors every few weeks. “Communication with faculty who are located all over the world requires education leaders who can effectively evoke passion,

encouragement, stimulate and direct operations through telephone calls, emails, and other asynchronous and synchronous technology" (Tipple, 2010, p. 6).

"Adjuncts often feel like the red-headed – or blonde- or brunette-headed – step-children of the academic world" states Liebhaber (2011, p. 4). Tipple (2010) affirms this citing studies that indicate "online adjunct faculty have the perception of being treated as second rate citizens and lack teaching, administrative and technical support" (p. 11). It is essential that administrators of online programs help their "adjuncts feel like a member of the faculty community" (Liebhaber, p. 4). This is especially true for online adjunct instructors. "Distance learning adjuncts, especially those who are physically removed, are particularly vulnerable to feeling disconnected from the institutional environment" (Schnitzer & Crosby, 2003, p. 5). Velez (2009) again states the importance of inclusion in the community "fostering this connection from the virtual faculty to their institution is incredibly important" (p. 1).

It is imperative that online adjunct faculty at community colleges "should not function in isolation" (Schnitzer & Crosby, 2003, p. 5). Puzziferro-Schnitzer (2005) speaks about the similarities between the needs of online students and online adjunct instructors saying "Good learning, like good work, is collaborative and social, not competitive and isolated" (p. 2). She further elaborates "creating a shared community, or team environment, helps to connect adjuncts to the institution, the administrators and the students" (p. 3). Many researchers support the idea of creating an online learning community for full-time and adjunct instructors teaching in the online environment (Lorenzetti, 2007; Puzziferro-Schnitzer; Vail, 2006; Velez, 2009).

The names for the online learning communities are varied, but the ideas are consistent. The Virtual Faculty Lounge (VFL) at Belmont Technical College allows online adjunct instructors "to access training and resources any time of the day, whether they are on or off campus" (Lorenzetti, 2007, p. 4). Vail (2006) believes that the Virtual Campus at Norwich University helps online administrators avoid serious problems because it helps create a "sense of belonging among adjunct faculty" (p. 6). Velez (2009) cites additional benefits of the small group Faculty Learning Communities (FLCs) at Miami University of Ohio, claiming "evidence shows that FLCs increase faculty interest in teaching, in learning, and provide support to faculty on an ongoing basis" (p. 2). Paloff & Pratt (as cited in Velez, 2009) offer that these online learning communities for faculty have the potential to "create relationships that are stronger than the relationships built at face to face institutions" (p. 2). Administrators of online programs at community colleges should work intentionally to help adjunct instructors feel they are a part of the institution.

Mentoring. One of the best ways that community college administrators of online programs can help adjunct instructors who teach in the online environment make connections with full-time instructors at the institution is to provide mentoring opportunities. Tipple (2010) agrees with the importance of mentoring: "there is no stronger and more effective way to connect to, and integrate into, a department's life than pairing the new adjunct faculty with a model instructor who is passionate about serving students and the institutional mission" (p. 7). In the community college setting, peer-mentors can serve as liaison, technical support, information resource and emotional support for the new online adjunct instructor ("Nine Practical Ideas," 2010). Puzziferro-Schnitzer (2005) adds that at Florida Community College at Jacksonville (FCCJ), virtual

mentors are utilized to moderate adjunct discussion boards “focusing on topics related to online teaching and learning” (p. 3). Schnitzer and Crosby (2003) caution administrators to understand the significance of establishing mentor relationships between full time faculty and online adjuncts in community colleges saying it “cannot be understated” (p. 6). They further outline several benefits:

> full time faculty become involved and active in the process of adjunct development, full time faculty builds respect and working relationship with adjunct faculty, adjunct faculty directly benefits from the knowledge and expertise of full time faculty, and adjunct faculty feel more involved and engaged. (p. 6)

Evaluation. Well-respected and highly qualified faculty members are attracted to community colleges that have quality online programs (Puzziferro-Schnitzer, 2005). To this end, “maintaining and improving quality should be an important consideration in designing and delivering online programs” (Rahman, 2001, p. 12). Evaluation plays an integral part in improving the quality of an instructor’s teaching. The evaluation process should be designed to support the online adjunct instructor and further the adjunct’s progress along Stryker’s continuum. “Performance evaluation is the capstone of quality instruction, courses and programs” (Schnitzer & Crosby, 2003, p. 6) and administrators of online programs in community colleges should use the evaluation process as a means to further develop the online adjunct instructor’s abilities in the online environment.

Tipple (2010) suggests that “effective leadership of adjunct faculty requires a regular evaluation and assessment of their teaching styles and pedagogy, and developmental feedback for continuous improvement” (p. 7). John Orlando, associate

program director for a master's level online program, (as cited in Vail, 2006) further suggests that online administrators should not overlook the student population as a viable source of evaluation data, particularly non-traditional students because "adult students are good about demanding value from their education" (p. 7). Rio Salado's onboarding process within the Social Studies department includes both a mini evaluation halfway through the adjunct instructor's first course and a peer evaluation at the end of the first course (Marble & Case, 2013b). The mini evaluation focuses on communication practices, roster management, feedback, and point distribution and provides an opportunity for intervention, if needed (Marble & Case, 2013b). The peer evaluation at the end of the adjunct's first course focuses on the adjunct's preparation, facilitation, communication and content knowledge (Marble & Case, 2013b).

Summary

This chapter included matters related to the recruitment, training, and retention of adjunct instructors as well as online instructors. Best practices that have been identified for professional development of both adjunct instructors and online instructors were examined. The literature review concluded with a discussion of professional development ideas related to adjunct instructors who teach in the online environment at community colleges.

Community college administrators should view their full-time and part-time online instructors as being on a continuum and should focus their efforts and resources on the most effective methods of developing their online instructors as they progress through the varying stages. Training for online instructors should be viewed as part of a comprehensive program of development for instructors. The purpose of this research

study was to examine whether the best practice of a professional development certification program for faculty who teach in the online environment contributes to increased student completion and achievement levels in subsequent online courses. This research study investigated a specific example of a faculty development certification program for instructors who teach in the online environment at one Midwestern community college. To fully develop the online instructor's potential, the literature suggests this program should include an orientation to the institution (particularly important for online adjunct instructors), basic technical training and support, advanced training that focuses on teaching in the online environment, opportunities for peer mentoring and an evaluation process.

CHAPTER 3 – METHODS

The purpose of this research study was to examine whether the best practice of a professional development certification program for faculty who teach in the online environment contributes to increased student completion and student success rates in subsequent online courses at one Midwestern community college. This chapter describes the methodology for this research study, including the design of the study, the case to be studied, data management and coding procedures, and the analysis of the data.

Midwestern Community College

The community college selected for this case study was a rural, public, two-year community college located in the Midwest. This institution served more than 3,000 students during the 2015-2016 academic year. This community college is fully accredited by its regional accrediting body, including having obtained approval for distance education. This institution was nationally recognized for its Assessment of Student Learning system, and according to the Institution's Fact Sheet, was also ranked #1 in Student Success in its state. This community college is located in a state with a strong public higher education system, including public universities, community colleges, and technical colleges. According to statewide data released in March 2016, two-year institutions in the state served 53% of all students in higher education, with community colleges accounting for 48% of student head count. Statewide, approximately 49% of students enrolled in community colleges take at least one online course. The percent of community college students enrolled in at least one online course was slightly higher than the percent of students in the entire system of public higher education in the state with

46% of students enrolled in at least one online course. This particular community college was an appropriate choice for this study due to three main reasons.

First, the institution has been offering online courses for more than ten years. Similar to national growth rates, the online offerings have been the fastest growing segment at this community college over the past decade. The online offerings represent approximately one-third of the credit hour production for the college and approximately forty percent of students enroll in at least one distance education course each semester.

Second, the institution employs approximately three times as many adjunct faculty members as it does full-time faculty. The most recent institutional data indicates that part-time instructors represent 75% of the instructional staff, with full-time faculty representing the other 25%. The prevalence of adjunct faculty at this institution is higher than at the national level (AACC, 2012; Offerman, 2010; Schmidt, 2008; Tipple, 2010).

Third, the institution offers a comprehensive professional development certification program for instructors who teach in the online environment. Instructors who successfully complete the semester-long program are recognized as a Certified Online Instructor at the institution. The professional development certification program was piloted during the Summer 2013 term and has been offered every semester since. There is no charge to participate in the program and participation is voluntary. In all, 66 instructors have completed the professional development program and are recognized as certified online and hybrid instructors at this Midwestern community college. This number represents approximately one-fourth of the instructors at the institution.

Midwestern Community College's Certification Program for Online Instructors

In response to the increased enrollment in online courses and the number of part-time faculty employed by the institution, this Midwestern community college developed a professional development certification program for faculty, both full-time and part-time, teaching in the online environment. The president of the Midwestern community college, shared the following statement regarding the institution's commitment to this particular professional development certification program:

> It is very critical to [this Midwestern community college] to provide a qualified instructor for every one of our courses and certainly teaching in an online environment contains its own challenges. [This certification program] was our attempt to assist all online instructors in meeting those challenges to make a more meaningful course for the student and perhaps raise educational attainment at the same time.

The purpose of the professional development certification program for online instructors offered by this institution is to help prepare instructors to design, teach, and evaluate online courses at the institution. The program blends theory and best practices related to teaching in the online environment with the practical application of how to effectively utilize the institution's learning management system to teach an online course. The syllabus for this semester-long certification course contains eight specific outcomes and 47 competencies (see Appendix A).

Following each semester, the institution provides the opportunity for participants to complete an anonymous evaluation survey for the professional development certification program. Participants are asked to respond to statements by selecting one of

the following options: “Strongly Agree”, “Agree”, “Disagree”, “Strongly Disagree”, and “Not Applicable”. The survey tool codes responses in the following method: “Strongly Agree” = 1, “Agree” = 2, “Disagree” = 3, “Strongly Disagree” = 4. Responses of “Not Applicable” are omitted from the calculation. Scores on individual questions can range from 1 to 4; scores that are less than 2 indicate overall participant agreement, while scores greater than 2 signify disagreement. Scores closer to 1 show a stronger agreement with the statement than scores closer to 2. A summary of select question analysis is included in the appendices (see Appendix B). These items include analysis of survey items such as “I feel confident about my ability to design and implement learning activities that foster student engagement and are appropriate to the online environment,” “This course improved my understanding of teaching methodologies for the online environment,” and “I have a good understanding of the [LMS] competencies.” The composite scores on these items ranged from 1.36 to 1.50.

The survey tool also includes an open-ended question related to the participant’s overall evaluation of the course, including their satisfaction with the course and whether it was a valuable educational experience. A majority of participants believe the professional development program is beneficial in preparing them to teach in the online environment. Responses to the open-ended question from seven participants are are listed here and a complete list of select participant comments is included in the appendices (see Appendix C).

- Overall I think the course was both valuable and satisfying, providing information and instruction on a variety of new ideas for inclusion in the online course.

- I feel much stronger in my skills and abilities as an online/hybrid instructor.
- I found the course a valuable tool to become a better instructor. I think all instructors should be required to take this class.
- I found the course most valuable as I continued to learn new technologies and approaches that continually enhance the online experience.
- I am very satisfied with [this course] and what I got out of it. This course exceeded my expectations considerably, which is no small feat, given that I'd been teaching online and was familiar with [the LMS] for some time. This course is most definitely worthwhile. I should note that this course is more rigorous than all of the continuing ed "graduate" courses in pedagogy that I've taken through [other institution] over the years. (The one exception to that has been my graduate history course I took last Fall, but that's the ONLY exception). Certainly, the homework load in [this course] exceeded that of most of my [other institution] courses. As far as level of rigor among professional development courses I've taken, [this course] either ties for first, or comes in a close 2nd.
- I would give it an [*sic*] very high grade. In my opinion this is a very complex course attempting to teach a diverse audience on how to obtain more than basic tech competencies. It is very well done and I was very pleased in how the material was presented and broken down. I feel confident that I am competent enough to be a more effective teacher--regardless of the instructional delivery methodology involved, as a result

of this course. It was an extremely valuable experience. I never ever worked so hard, so long nor felt as frustrated, exasperated, disheartened, mad, tearful, incompetent, scared or as pleased, joyous and victorious as when tacking this course. I needed it. It reminded me that despite what hiring people think and practice, being in your 60's isn't old anymore. I continue to have an immense passion to teach and help make a difference for students. Perhaps I'll have the chance.

- I am more than satisfied with what I got out of the course. I reaffirmed some knowledge I had about [the LMS] and learned additional knowledge that I was unaware of. I also learned a great deal about tools and methods to use for teaching online or hybrid, which can also be used in a fashion in a f2f class. I won't hesitate to say that I found this one of the most valuable educational experiences I have had for some time.

Institutional Review Board

Before gathering the data and conducting the analysis, the researcher was required to obtain approval from the University of Nebraska-Lincoln Institutional Review Board. Exempt review status was requested. This research study met the qualifications for exempt review in Category 4, namely the research involved existing data and the information was recorded in such a manner that neither individual students nor instructors could be identified, directly or indirectly. A copy of the approval letter is included in Appendix D.

Research Design

The primary purpose of this quantitative study was to determine if a connection exists between the best practice of a professional development certification program for online instructors and student completion and success rates. Quantitative research designs test theories by examining specified variables and the relationship among them (Creswell, 2014). Case study research is an "approach in which the investigator explores a real-life, contemporary bounded system (a case)… over time, through detailed, in-depth data collection involving multiple sources of information" (Creswell, 2013, p. 97). Case studies are further categorized as seeking to "understand a specific issue, problem, or concern" (Creswell, 2013, p. 98) and as "a design of inquiry found in many fields, especially evaluation, in which the researcher develops an in-depth analysis of a case, often a program, event, activity, process, or one or more individuals" (Creswell, 2014).

The purpose of *ex post facto* research designs is to explain "educational phenomena through the study of cause-and-effect relationships" (Gall et al., 2003, p. 295). Research studies are often conducted *ex post facto* because they rely on observations that have already occurred (Gall et al., 2003). *Ex post facto* is a Latin phrase translating to "after the fact" (Gay et al., 2006) or "operating retroactively" (Gall et al., 2003). *Ex post facto* research attempts to uncover cause-effect relationships, typically using two or more groups and examining one independent variable (Gay et al., 2006). A key component in *ex post facto* studies is that they are limited to observing, measuring, and relating "*naturally occurring* variations" of two factors (Gall et al., 2003, p. 296). Unlike experimental research designs, in *ex post facto* studies the researcher does not

manipulate group membership because the groups are pre-formed based upon an observation that has already occurred (Gay et al., 2006).

Gall, Gall, and Borg (2003) suggest researchers follow these steps when conducting *ex post facto* research: state the research problem, select a defined group, select a comparison group, collect the data, analyze the data, and interpret the results. In this instance, groups were created to examine means before, during, and after an instructor completed a professional development certification program for instructors teaching in the online environment. The specific means examined were student completion rates and student success rates. For this case study, the student completion rate and the student success rate were both dependent variables. The independent variable was defined as earning the online instructor certification and therefore the comparison was before, during, and after completion of the online instructor certification.

Researchers conducting *ex post facto* studies must carefully interpret results. Gall et al. (2003) state the disadvantage associated with *ex post facto* research is that "inferences about causality on the basis of the collected data are necessarily tentative" (p. 297). Similarly, Gay, Mills, and Airasian (2006) caution researchers to carefully draw conclusions as "an apparent cause-effect relationship may not be as it appears" (p. 219). A statistically significant group difference may be caused by the variable or the difference may be due to another variable that was not studied. This is particularly a concern of repeated-measures designs, which require the passage of time between data points.

This was a non-experimental, quantitative case study that examined the data *ex-post facto* to determine if completing a professional development certification program

aids in increasing student completion and student success rates. The data analyzed in this study pre-existed in institutional records at the Midwestern community college. No attempt was made to control or manipulate the variables and they were not changed during this research study.

Data Management

This research study compared and tested means for online student completion and student success rates before, during, and after an instructor completed a professional development certification program for instructors teaching in the online environment. The data used for this research study was not specifically prepared for this study, rather it was obtained from existing institutional data files. The dependent variables studied were the mean student completion rate and the mean student success rate in online courses. The groupings were done based on before, during, and after an instructor participated in the institution's professional development program and earned certification as an online instructor. It was important to establish a single data source that included all variables for the regression analysis. The data were merged from three sources.

The first data source was the Institution's professional development data as maintained by the Online Campus, the department responsible for training faculty. A list of faculty who had completed the professional development program since its inception was given to the researcher. This data included the instructor's name and the semester during which the program was completed. The second data source was student grade records maintained by the Office of the Registrar at the Institution. The Office of Institutional Research and Reporting queried this data from the institution's student information system. This research study utilized student grade data (A, B, C, D, F, XF,

W, WA) from Fall 2004 through Summer 2016. The third data source was instructor status as maintained by the Office of Human Resources. The researcher attempted to analyze data related to instructor status, either full-time faculty or part-time faculty, at this institution. These records are maintained by the Human Resources department and, similarly to the student data, was queried from the Institution's administrative platform by the Office of Institutional Research and Reporting. A comprehensive data set, merging the data for the certified instructors with their student grades, was compiled by the researcher.

The researcher requested and received permission from the President of the Midwestern community college to use the Institution's data and the confidentiality of the data was maintained throughout this research project. The researcher compiled the data in a single Excel spreadsheet using the codification methods addressed below. The researcher then imported the data in the Excel spreadsheet into Statistical Package for the Social Sciences (SPSS) for the analysis.

Data Elements / Coding

This *ex-post facto* case study utilized pre-existing institutional data. This research study compared selected instructors' before, during, and after means on two independent variables: student completion rates and student success rates. This section summarizes the specific coding that was used to calculate the means.

Instructor. This study included all instructors who obtained certification through the professional development program and taught online courses at Midwestern community college during at least two of the three timeframes: before, during, and after completing the professional development program.

Student completion rates. For the purpose of this case study, student completion rate was defined based on whether the student was enrolled in the course at the end of the semester and earned a grade versus whether the student withdrew or was withdrawn prior to the end of the semester. Students earning an A, B, C, D, F, P (pass), or NP (no pass) were coded with a *1*, while students earning a W (withdrawal), WA (administrative withdrawal), or XF (fail / academic dishonesty) were coded with a *0*. Students earning an I (Incomplete) were omitted from this study. This coding method allowed for the calculation of the average completion rate for each instructor before, during, and after completing the professional development certification program.

Student success rates. For the purpose of this case study, student pass rate was defined based on the grade each student earned in the course at the end of the semester. Students earning an A were coded with a *4*, students earning a B were coded with a *3*, Cs were coded with a *2*, Ds were coded with a *1*, and Fs were coded with a *0*. Students earning an I (Incomplete) were omitted from this study and data for students earning a P (pass), NP (no pass), W (withdrawal), WA (administrative withdrawal), or XF (fail / academic dishonesty) were not utilized in this particular analysis. This coding method allowed for the calculation of the average success rate for each instructor before, during, and after completing the professional development certification program.

Research Questions

The primary reason for this study was to determine whether a professional development certification program contributes to increased student completion and success in online courses completed at one Midwestern community college. The following research questions were developed to address this question.

R1. Is there a statistically significant difference in student completion rates in online courses before, during, and after an instructor completes an institutional professional development certification program for instructors teaching in the online environment?

R2. Is there a statistically significant difference in student pass rates in online courses before, during, and after an instructor completes an institutional professional development certification program for instructors teaching in the online environment?

Hypotheses for *t*-Tests

In order to answer the research questions, the following corresponding null and alternative hypotheses were developed and used for the repeated measures *t*-test analysis.

$H_0$1. There is no difference in the means of the student completion rates calculated before and after instructors complete the professional development certification program for instructors teaching in the online environment.

H_A1. There is a difference in the means of the student completion rates calculated before and after instructors complete the professional development certification program for instructors teaching in the online environment.

$H_0$2. There is no difference in the means of the student success rates calculated before and after instructors complete the professional development certification program for instructors teaching in the online environment.

H_A2. There is a difference in the means of the student success rates calculated before and after instructors complete the professional development certification program for instructors teaching in the online environment.

Hypotheses for ANOVA

In order to answer the research questions, the following corresponding null and alternative hypotheses were developed and used for the repeated measures ANOVA analysis.

H_01. There is no difference in the means of the student completion rates calculated before, during, and after instructors complete the professional development certification program for instructors teaching in the online environment.

H_A1. There is at least one difference in the means of the student completion rates calculated before, during, and after instructors complete the professional development certification program for instructors teaching in the online environment.

H_02. There is no difference in the means of the student success rates calculated before, during, and after instructors complete the professional development certification program for instructors teaching in the online environment.

H_A2. There is at least one difference in the means of the student success rates calculated before, during, and after instructors complete the professional development certification program for instructors teaching in the online environment.

Data Analysis

The data were analyzed using two statistical tests. The first was paired-samples *t*-tests for two dependent groups. The first group consisted of data for student completion and student success calculated prior to the instructor's completion of the professional development certification program and the second group consisted of data for student completion and student success calculated after the instructor completed the professional development certification program. Based on the results of the *t*-tests, the researcher decided to also use analysis of variance (ANOVA) to further examine the data. Using repeated measures ANOVA allowed the researcher to compare the data at three distinct time periods: before, during, and after the instructor completed the professional development certification program.

Repeated measures *t*-tests. For the *t*-tests, the dependent groups were established by repeated measures, namely before and after instructors completed the professional development certification program. The repeated measures design "is one in which a single sample of individuals is measured more than once on the same dependent variable" (Gravetter & Wallnau, 2009, p. 341). A *t*-test analysis for repeated measures can be used to determine if a significant difference exists between the means of a single sample at two different times (Gay et al., 2006). Gall et al. (2003) state that an advantage of the *t*-test for correlated means, such as repeated measures, is that "it has greater statistical power than the *t*-test for independent means" (p. 305). Gravetter and Wallnau (2009) clarify that this is due to the removal of the opportunity for individual differences that typically exist in studies that utilize independent samples.

For *t*-tests of correlated means, the following formula is used to calculate *t*:

$$t = \frac{\overline{D}}{\sqrt{\frac{\sum D^2 - \frac{(\sum D)^2}{N}}{N(N-1)}}}$$

In this formula, D equals the difference between the correlated means (Gay et al., 2006). For this study, the before and during means were grouped for comparison to the after data and a two-tailed *t*-test with a level of significance of $\alpha = 0.05$ was used.

There are two underlying assumptions for *t*-tests. The first is that the data points observed at each time interval must be independent of each other. The second is that the scores in the population must be normally distributed (Gravetter & Wallnau, 2009).

Following the *t*-test analysis, the measure for effect size was calculated using Cohen's *d*. Effect size refers to the magnitude of a treatment effect and is an attempt to interpret whether a treatment effect is substantial (Gravetter & Wallnau, 2009). Cohen (1988) suggests a standardized criterion be used when evaluating the size of a treatment effect for *t*-tests. Gravetter and Wallnau (2009) encourage the use of Cohen's *d* to measure effect size. Table 3.1 displays Cohen's criterion for interpreting effect size for *t*-tests using Cohen's *d*. The formula to calculate Cohen's *d* for repeated measure *t*-tests is as follows:

$$d = \frac{M_D}{s}$$

where M_D equals the sample mean difference and s equals sample standard deviation.

Table 3.1 Cohen's Criterion to Evaluate Effect Size for *t*-tests

Magnitude of d	Effect Size
$d = 0.2$	Small
$d = 0.5$	Medium
$d = 0.8$	Large

Repeated measures ANOVA. For the analysis of variance, the groups were established by repeated measures, namely before, during, and after an instructor completed the professional development certification program. The repeated measures design removes the possibility of individual differences accounting for differences between treatments since "the participants in one treatment are exactly the same as the participants in every treatment" (Gravetter & Wallnau, 2009, p. 448). Analysis of variance with repeated measures can be used to determine if a significant difference exists between the means of two or more levels of a factor (Gravetter & Wallnau, 2009).

Gay et al. (2006) state that "the concept underlying ANOVA is that the total variation, or variance, of scores can be divided into two sources – variance between groups (variance caused by the treatment groups) and variance within groups (error variance)" (p. 360). Gravetter and Wallnau (2009) explain the calculation of the F-ratio as a comparison of "the actual mean differences between treatments with the amount of difference that would be expected just by chance" (p. 448). Thus, the following formula is used to calculate the F-ratio for repeated measures ANOVA:

$$F = \frac{variance\ between\ treatments}{variance\ expected\ by\ chance} = \frac{\mathrm{MS}_{between\ treatments}}{\mathrm{MS}_{error}}$$

In this formula, MS equals the Mean Square and is calculated by dividing the appropriate Sum of Squares by the appropriate degrees of freedom. For example,

$MS_{between\ treatments} = \frac{SS_{between\ treatments}}{df_{between\ treatments}}$. (Gravetter & Wallnau, 2009). For this study, a level of significance of $\alpha = 0.05$ was used.

There are three underlying assumptions for analysis of variance (ANOVA): the observations within each treatment level must be independent, the population distribution within each treatment must be normally distributed, and the variances of the differences between all possible pairs of the levels for each treatment should be equivalent (Gravetter & Wallnau, 2009). The third assumption is referred to as sphericity (Mauchly, 1940). Mauchly's Test of Sphericity was used to determine if the assumption of sphericity was met or violated.

Following the ANOVA test, the measure for effect size was calculated. Effect size refers to the magnitude of a treatment effect and is an attempt to interpret whether a treatment effect is substantial (Gravetter & Wallnau, 2009). Cohen (1988) suggests a standardized criterion be used when evaluating the size of a treatment effect. Gravetter and Wallnau (2009) encourage the use of eta squared, η^2, to measure effect size for ANOVA. Table 3.2 displays Cohen's criterion for interpreting effect size for ANOVA using eta squared, η^2. The formula to calculate effect size for repeated measures ANOVA is as follows:

$$\eta^2 = \frac{SS_{between\ treatments}}{SS_{between\ treatments} + SS_{error}}$$

where SS equals the sum of squares. In addition, basic post hoc tests were performed to identify which pairings of the levels had significant differences.

Table 3.2 Cohen's Criterion to Evaluate Effect Size for ANOVA

Magnitude of η^2	Effect Size
$\eta^2 = 0.01$	Small
$\eta^2 = 0.09$	Medium
$\eta^2 = 0.25$	Large

Summary

This chapter included descriptions of the research design, case to be studied, data management and codification procedures and the analysis of the data. The Results of this study are presented in Chapter 4 and the Interpretations and Recommendations are presented in Chapter 5.

CHAPTER 4 – RESULTS

Introduction

An *ex post facto* quantitative case study design was used for this study. The primary reason for this study was to determine whether completing a professional development certification program contributes to increased student completion and success rates in online courses at a Midwestern community college. Chapter 4 contains the findings that were used to answer the research questions in this study:

1. Is there a statistically significant difference in student completion rates in online courses before, during, and after an instructor completes an institutional professional development certification program for instructors teaching in the online environment?
2. Is there a statistically significant difference in student success rates (as defined by earning a transferable grade of A, B, or C) in online courses before, during, and after an instructor completes an institutional professional development certification program for instructors teaching in the online environment

Descriptive Statistics

The professional development certification program was piloted at this Midwestern community college in Summer 2013 and was subsequently implemented in the Fall 2013 term. To date, 66 individuals have been certified as an online and hybrid instructor at this institution. These individuals represent full-time faculty, part-time faculty, full-time employees who also teach for the institution, as well as some

individuals who have not taught for the institution. A full-time employee whose main responsibility is not instruction is considered a part-time instructor at this institution. Table 4.1 displays the number of instructors who have completed the professional development certification program to become certified online and hybrid instructors at this institution.

Table 4.1 Number of Certified Online Instructors by Category

Instructor Status	Number
Full-Time	23
Part-Time	32
Employee[a]	9
Never Taught	2
Total	66

[a] Full-Time employees at the institution who are not full-time faculty, but who do have teaching responsibilities within a program.

Of the 66 certified instructors, 13 have not taught online courses at this institution. Additionally, 6 certified instructors completed the certificate in the most recent term so there is no “after” comparison data and 5 other certified instructors either did not teach online prior to receiving the certification or have not taught online since. Ten of these individuals teach in a health-related program that includes a selective application process and/or utilizes a team teaching approach. This left 32 instructors who were the subjects for this study. Table 4.2 displays the information for the study subjects by part-time and full-time status. There were not enough subjects employed full-time in order to compare data for full-time instructors and part-time instructors.

Table 4.2 Study Subjects by Employee Classification

Instructor Status	Number
Full-Time	9
Part-Time	23
Total	32

[a] Full-Time employees at the institution who are not full-time faculty, but who do have teaching responsibilities within a program.

Hypothesis Testing

In order to answer the research questions, the student completion and student success data were analyzed using both dependent samples *t*-tests and repeated measures analysis of variance (ANOVA).

Repeated measures *t*-test. The repeated measures *t*-test evaluated the effect of the professional development certification program as measures were taken before and after instructors completed the program and earned certification as an online and hybrid instructor. For *t*-tests of correlated means, the following formula is used to calculate *t*:

$$t = \frac{\bar{D}}{\sqrt{\frac{\sum D^2 - \frac{(\sum D)^2}{N}}{N(N-1)}}}$$

In this formula, D equals the difference between the correlated means (Gay et al., 2006). For this study, the before and during means were grouped for comparison to the after data and a two-tailed *t*-test with a level of significance of $\alpha = 0.05$ was used.

Following the *t*-test analysis, the measure for effect size was calculated using Cohen's *d*. Effect size refers to the magnitude of a treatment effect and is an attempt to interpret whether a treatment effect is substantial (Gravetter & Wallnau, 2009). Cohen (1988) suggests a standardized criterion be used when evaluating the size of a treatment

effect. Gravetter and Wallnau (2009) encourage the use of Cohen's *d* to measure effect size for *t*-tests. Table 3.1 displays Cohen's criterion for interpreting effect size for *t*-tests using Cohen's *d*. The formula to calculate Cohen's *d* for repeated measure *t*-tests is as follows:

$$d = \frac{M_D}{s}$$

where M_D equals the sample mean difference and s equals sample standard deviation.

Research question 1: Student completion rates. The first research question sought to identify whether a statistically significant difference in student completion rates in online courses exists when rates from before and after an instructor completes an institutional professional development certification program for instructors teaching in the online environment are compared. Table 4.3 shows the data related to online student completion rates before and after the instructor completed the professional development certification program. The table displays the number of instructors represented in the before and after groups (N) and the average completion rate for each group (Mean). Notice the mean for online student completion rates was higher after the instructors completed the professional development certification program. The mean student completion rate for these 32 instructors rose from 93.24% to 95.13%. Table 4.4 displays the significance from the *t*-test for equality of means. Since the significance is greater than 0.05, the difference observed between the before and after student completion rates was not considered statistically significant. The data used for this *t*-test comparing student completion rates is included in Appendix E.

Because the p-value of $p = 0.054$ is close to the statistically significant threshold of $p = 0.05$, it might be helpful to note a trend in handling similar p-values in recent years. Recent criticisms of null-hypothesis significance testing include that it forces the researcher to "see the world as black or white… and make our conclusions in dichotomous terms" (Cumming, 2014, p. 11) and "from an ontological viewpoint, there is no sharp line between a 'significant' and a 'nonsignificant' difference" (Rosnow & Rosenthal, 1989, p. 1277). In response to these criticisms, Pritschet, Powell, and Horne (2016) found that, even though there are no guidelines stipulating the use of the term "marginally significant," there appears to be a prevalent practice among psychological researchers and an unwritten statistical practice in the psychology field: "it is possible that our results reflect that psychologists are more willing to view near-threshold p values as evidentially equivalent to their statistically significant counterparts" (p. 1041). Therefore, the result of this *t*-test could be considered marginally significant.

Table 4.3 Student Completion Rates for Before and After Groups

	Mean	SD	SEM
Before Certification	0.9324	0.0367	0.0065
After Certification	0.9513	0.0577	0.0102

Note. $N = 32$.

Table 4.4 T-test for Before and After Student Completion Rates

		95% Confidence Interval				
	MD	Lower	Upper	t	df	Sig. (2-tailed)
Student Completion	−0.0189	−0.0381	0.0003	−2.003	31	0.054

From the data, it appears that the online student completion rates increased by an average of $M = 0.0189$ after instructors completed the professional development

certification program. The analysis was not statistically significant, $t(31) = -2.003, p = 0.054$. Thus, there is not significant evidence to reject the null hypothesis.

Effect size. Calculating Cohen's d for the online student completion rates yields the following: $= \frac{M_D}{s} = \frac{-0.0189}{0.0533} = -0.3546$. Cohen's *d* of -0.3546 indicates small to medium effect.

***Research question 2: Student success rates*.** The second research question sought to identify whether a statistically significant difference in student success rates in online courses exists when rates from before and after an instructor completes an institutional professional development certification program for instructors teaching in the online environment are compared. Table 4.5 shows the data related to student success rates before and after the instructor completed the professional development certification program. The table displays the number of instructors represented in the before and after groups (N) and the average success rate for each group (Mean). Notice the mean for online student success rates was higher after the instructors completed the professional development certification program. The mean student success rate, calculated based on student grades, for these 32 instructors rose from 2.7693 to 2.9133. Table 4.6 displays the significance from the *t*-test for equality of means. Since the p-value is less than 0.05, the difference observed between the before and after student success rates was considered significant. The data used for this *t*-test comparing student success rates is included in Appendix F.

Table 4.5 Student Success Rates for Before and After Groups

	Mean	SD	SEM
Before Certification	2.7693	0.5086	0.0899
After Certification	2.9133	0.4289	0.0758

Note. $N = 32$.

Table 4.6 T-test for Before and After Student Success Rates

		95% Confidence Interval				
	MD	Lower	Upper	t	df	Sig. (2-tailed)
Student Success	-0.1440	-0.2867	-0.0013	-2.057	31	0.048

From the data, it appears that the online student success rates increased by an average of $M = 0.1440$ with a standard deviation of $SD = 0.3958$ after instructors completed the professional development certification program. The analysis was statistically significant, $t(31) = -2.057,\ p = 0.048$. Thus, there is significant evidence to reject the null hypothesis.

Effect size. Calculating Cohen's d for the online student success rates yields the following: $= \frac{M_D}{s} = \frac{-0.1440}{0.3958} = -0.3638$. Cohen's *d* of -0.3638 indicates small to medium effect.

Repeated measures ANOVA analysis. Based on the results of the *t*-test analysis, a repeated measures ANOVA analysis was also completed through SPSS. The decision to use ANOVA was made because it provided the opportunity to look at the data at three distinct times. The repeated measures ANOVA evaluated the effect of the professional development certification program as measures were taken before, during, and after instructors completed the program and earned certification as an online and

hybrid instructor. For repeated measures ANOVA, the following formula is used to calculate the F-ratio:

$$F = \frac{variance\ between\ treatments}{variance\ expected\ by\ chance} = \frac{\mathrm{MS}_{between\ treatments}}{\mathrm{MS}_{error}}$$

In this formula, MS equals the Mean Square and is calculated by dividing the appropriate Sum of Squares by the appropriate degrees of freedom. For example, $MS_{between\ treatments} = \frac{SS_{between\ treatments}}{df_{between\ treatments}}$. (Gravetter & Wallnau, 2009). For this study, a level of significance of $\alpha = 0.05$ was used.

Following the ANOVA test, the measure for effect size was calculated. Effect size refers to the magnitude of a treatment effect and is an attempt to interpret whether a treatment effect is substantial (Gravetter & Wallnau, 2009). Cohen (1988) suggests a standardized criterion be used when evaluating the size of a treatment effect. Gravetter and Wallnau (2009) encourage the use of eta squared, η^2, to measure effect size for ANOVA. Table 3.2 displays Cohen's criterion for interpreting effect size for ANOVA using eta squared, η^2. The formula to calculate effect size for repeated measures ANOVA is as follows:

$$\eta^2 = \frac{SS_{between\ treatments}}{SS_{between\ treatments} + SS_{error}}$$

where SS equals the sum of squares. In addition, basic post hoc tests were performed to identify which pairings of the levels had significant differences.

Research question 1: Student completion rates. A one-way repeated measures analysis of variance (ANOVA) was conducted to evaluate the null hypothesis that there is no change in student completion rates when measured before, during, and after the

instructor completes the professional development certification program for online and hybrid instructors (N = 23). Table 4.7 shows the descriptive statistics related to student completion rates before, during, and after the instructor completed the professional development certification program. The table displays the average completion rates (Mean) and the standard deviation for each group. Notice the mean was highest for the during certification time period. The mean student completion rate for these 23 instructors rose from 90.82% prior to certification to 96.38% during the semester of certification to 93.81% after receiving certification.

Mauchly's Test of Sphericity indicated that the assumption of sphericity had not been violated, $\chi^2(2) = 1.545, p = 0.462$. Table 4.8 displays the significance from the repeated measures ANOVA test. The F test statistics indicates that there is a statistically significant difference in online student completion rates among the three time frames: before, during, and after instructors completed the professional development certification program, $F(2,44) = 10.078, p < 0.001$. Thus, there is significant evidence to reject the null hypothesis. The data used for this repeated measures ANOVA test comparing student completion rates is included in Appendix G.

Table 4.7 Student Completion Rates for Before, During, and After Groups

	Mean	Standard Deviation
Before Certification	0.9082	0.0421
During Certification	0.9638	0.0458
After Certification	0.9381	0.0618

Note. $N = 23$.

Table 4.8 ANOVA Tests of Within-Subjects Effects

	SS	df	MS	F	$Sig.$
Student Completion	0.036	2	0.018	10.078	0.000
Error	0.078	44	0.002		

Effect size. Calculating effect size for online student completion rates yields the following: $\eta^2 = \frac{SS_{time}}{SS_{time}+SS_{error}} = \frac{0.036}{0.036+0.078} = 0.3158$. The effect size ($\eta^2 = 0.3158$) tells us that 31.58% of the variance in student completion rates is accounted for by time frame. Using Cohen's criterion, we conclude this is a large effect. This might indicate that the professional development certification program has a large effect on online student completion rates.

Post hoc test. Since the results of the ANOVA were found to be statistically significant, a basic post hoc test was conducted. Table 4.9 displays the results of the pairwise comparisons from the post hoc test. The post hoc test indicated a significant difference in online student completion rates exists between the before and during certification groups as well as between the before and after certification groups. The difference in online student completion rates between the during and after certification groups was not statistically significant.

Table 4.9 Pairwise Comparison for Student Completion Rates

Time	Time	Mean Difference	Std. Error	Sig.
Before	During	−0.056	0.012	0.000
	After	−0.030	0.011	0.045
During	Before	0.056	0.012	0.000
	After	0.026	0.014	0.236
After	Before	0.030	0.011	0.045
	During	−0.026	0.014	0.236

Research question 2: Student success rates. A one-way repeated measures analysis of variance (ANOVA) was conducted to evaluate the null hypothesis that there is no change in student success rates when measured before, during, and after the instructor completes the professional development certification program for online and hybrid instructors ($N = 23$). Table 4.10 shows the descriptive statistics related to student success rates before, during, and after the instructor completed the professional development certification program. The table displays the average completion rates (Mean) and the standard deviation for each group. Notice the mean was highest for the after certification time period. The mean student success rate, calculated based on student grades, for these 23 instructors rose from 2.6078 prior to certification to 2.7368 during the semester of certification to 2.9056 after receiving certification.

Mauchly's Test of Sphericity indicated that the assumption of sphericity had not been violated, $\chi^2(2) = 2.399, p = 0.301$. Table 4.11 displays the significance from the repeated measures ANOVA test. The F test statistic indicates that there is not a statistically significant difference in online student success rates among the three time frames: before, during, and after instructors completed the professional development certification program, $F(2,44) = 2.863, p = 0.068$. Thus, there is not significant evidence to reject the null hypothesis. However, we could consider the p value to be approaching significance or marginally significant (Cumming, 2014; Rosnow & Rosenthal, 1989; Pritschet, Powell, & Horne, 2016). The data used for this repeated measures ANOVA test comparing student success rates is included in Appendix H.

Table 4.10 Student Success Rates for Before, During, and After Groups

	Mean	Standard Deviation
Before Certification	2.6078	0.5841
During Certification	2.7368	0.6190
After Certification	2.9056	0.4088

Note. $N = 23$.

Table 4.11 ANOVA Tests of Within-Subjects Effects

	SS	df	MS	F	$Sig.$
Student Success	1.026	2	0.513	2.863	0.068
Error	7.885	44	0.179		

Effect size. Calculating effect size for online student success rates yields the following: $\eta^2 = \frac{SS_{time}}{SS_{time}+SS_{error}} = \frac{1.026}{1.026+7.885} = 0.1151$. The effect size ($\eta^2 = 0.1151$) tells us that 11.51% of the variance in student success rates is accounted for by time frame. Using Cohen's criterion, we conclude this is a medium effect. This might indicate that the professional development certification program has a medium effect on online student success rates.

Post hoc test. A basic post hoc test was conducted. Table 4.12 displays the results of the pairwise comparisons from the post hoc test. The post hoc test indicated a significant difference in online student success rates exists between the before and after certification groups. The differences in online student success rates between the before and during as well as the during and after certification groups were not statistically significant.

Table 4.12 Pairwise Comparison for Student Success Rates

Time	Time	Mean Difference	Std. Error	Sig.
Before	During	−0.129	0.141	1.000
	After	−0.298	0.105	0.029
During	Before	0.129	0.141	1.000
	After	−0.169	0.126	0.580
After	Before	0.298	0.105	0.029
	During	0.169	0.126	0.580

Summary

This chapter reported the results of the statistical analysis. Table 4.13 summarizes the findings from the *t*-tests and the repeated measures ANOVA:

Table 4.13 Summary of Statistical Analysis

Statistical Analysis	Student Completion	Student Success
t-test	Improvement; Marginal Significance	Improvement; Statistical Significance
ANOVA	Improvement; Statistical Significance	Improvement; Marginal Significance

Based on the results from the *t*-tests, the null hypothesis for online student completion rates is not rejected, but the null hypothesis for online student success rates is rejected. The opposite is true for the ANOVA in that the null hypothesis for online student completion rates is rejected, while the null hypothesis for online student success rates is not rejected. The answer to the research question is that a statistically significant difference was not found between the before and after means based on the *t*-test, but a statistically significant difference was found among the before, during, and after means, for the variable of online student completion from the ANOVA. With regard to the research question for online student success rates, a statistically significant difference was found between the before and after means based on the *t*-test, but a statistically

significant difference was not found among the before, during, and after means for the variable of online student success rates from the ANOVA. A discussion of these results is included in Chapter 5.

CHAPTER 5 – INTERPRETATION AND RECOMMENDATIONS

Study Summary

The purpose of this *ex post facto* case study was to examine whether the best practice of a professional development certification program for faculty who teach in the online environment contributes to increased student completion and student success rates in subsequent online courses. Specifically, this study examined whether differences exist in student completion rates and student success rates (measured by the student's earned final grade) before, during, and after instructors completed the professional development program to earn an online instructor certificate at one Midwestern community college. The data were analyzed using *t*-tests and ANOVA for repeated measures.

There were two research questions in this study:

1. Is there a statistically significant difference in student completion rates in online courses before, during, and after an instructor completes an institutional professional development certification program for instructors teaching in the online environment?
2. Is there a statistically significant difference in student success rates (as defined by earning a transferable grade of A, B, or C) in online courses before, during, and after an instructor completes an institutional professional development certification program for instructors teaching in the online environment?

The analysis of the data for research question 1, related to online student completion rates, resulted in a marginally significant difference from the *t*-test and a significant difference from the ANOVA test. The post hoc test from the ANOVA

indicated that significant differences in online student completion rates existed both between the before and during certification groups as well as between the before and after certification groups.

The analysis of the data for research question 2, related to online student success rates, resulted in a significant difference from the *t*-test and a marginally significant difference from the ANOVA test. The post hoc test from the ANOVA indicated a significant difference in online student success rates existed between the before and after certification groups.

The remainder of Chapter 5 discusses the findings from the analysis, implications for practice, and recommendations for future research in this area.

Discussion of Results

The quantitative analyses in this case study indicate an increase in both online student completion rates and online student success rates after instructors complete the professional development certification program for instructors teaching in the online environment. The mean student completion rates increased from 93.24% to 95.13% (t-test data) and from 90.82% to 93.81% (ANOVA data) after instructors completed the professional development certification program. Likewise, the mean student success rates, calculated based on student grades, increased from 2.7693 to 2.9133 (t-test data) and from 2.6078 to 2.9056 (ANOVA data) after instructors completed the professional development certification program. The results of the quantitative analyses provide compelling evidence that the professional development certification program may contribute to increased student completion and success rates in online classes at Midwestern community college.

The findings in this case study correlate with the aforementioned literature. Previous studies have indicated that providing professional development activities for faculty teaching in the online environment is an essential component for institutions wishing to provide a quality online program for students (Husmann & Miller, 2001; Schnitzer & Crosby, 2003; Tipple, 2010; Yang & Cornelious, 2005). Professional development initiatives have specifically been linked to increased student completion (Clinefelter, 2012; Shattuck, 2009), and increased student success rates (Sawyer et al., 2014; Sixl-Daniell et al., 2006; Weaver et al., 2008). This study supports previous research given that the online student completion and success rates at Midwestern community college were higher after instructors completed the professional development certification program for instructors teaching in the online environment.

The professional development certification program at Midwestern community college has similar characteristics with the seven step onboarding process for online adjuncts at Rio Salado Colleges (Marble & Case, 2013a; Marble & Case, 2013b), the Online Facilitator Orientation course at Indiana Wesleyan University ("The Indiana Wesleyan Model," 2005), and the Teaching Academy for Distance Learning at Southern Polytechnic State University (Shah et al., 2014), as well as other programs designed to provide ongoing training for all instructors teaching in the online environment. In addition, Midwestern's program contains elements from Coburn-Collins' (2014) best practices for supporting adjunct faculty as well as Clinefelter's (2012) best practices for developing online instructors. Considering the results of the data analysis for this study and the review of the literature, the professional development certification program may be an example of a best educational practice at this institution.

It is important to remember that this case study methodology was *ex post facto*. Since it was not experimental in design, the increased student completion and student success rates cannot be conclusively attributed to the professional development program alone. However, it should be noted that during the timeframe of this study, Midwestern community college did not introduce any other initiatives or implement any other programs that might explain the increased student completion and success rates.

Research question 1: Student completion rates. The results from the *t*-test and the ANOVA for online student completion rates indicate improvements in both cases. The *t*-test, which analyzed mean differences before and after instructors completed the professional development certification program, showed marginal improvement with a small to medium effect. The ANOVA, which analyzed mean differences before, during, and after instructors completed the professional development certification program, showed significant improvement with a large effect size. The post hoc test for the ANOVA indicated significant differences between the before and during and before and after certification groups, but not between the during and after groups. This implies that the benefits of the professional development certification program related to online student completion rates begin during the semester the instructor participates in the program.

Research question 2: Student success rates. The results from the *t*-test and the ANOVA for online student success rates indicate higher levels of student success, as measured by earned grades in both cases. The *t*-test, which analyzed mean differences before and after instructors completed the professional development certification program, showed significant improvement with a small to medium effect. The ANOVA,

which analyzed mean differences before, during, and after instructors completed the professional development certification program, showed marginal improvement with a medium effect size. The post hoc test for the ANOVA indicated significant differences between the before and after certification groups, but not between the before and during or the during and after groups. This implies that the benefits of the professional development certification program related to online student success rates are highest after instructors complete the professional development certification program. Therefore, instructors should be encouraged to complete the certification program as soon as practicable.

Implications for Practice

A primary question for Midwestern community college is whether there is evidence that the intended outcome of the professional development certification program, specifically increased student completion and student success in online courses, has been realized. The findings of this study suggest that the professional development certification program for faculty who teach in the online environment at Midwestern community college may, in fact, help increase online student completion and success rates.

A common criticism of educational organizations is that programs are often put in place and not examined to determine whether they are effective or the extent to which they are effective (Clay, 1999; Murray, 2002a; Murray, 2002b). This initial examination indicates that Midwestern community college should continue to evaluate the effectiveness of the best practice professional development certification program.

Based on the results of this case study, a natural conclusion would be that a potential best practice for Midwestern, and indeed for other institutions that offer online courses, would be the investment of adequate resources of time, money, and personnel to develop professional development certification programs for all instructors who teach in the online environment. The specific professional development certification program highlighted in this study may provide an example of a best educational practice at Midwestern community college. Best educational practice professional development programs at other institutions may vary from the one in this case study.

Recommendations for Future Research

As previously mentioned, this *ex post facto* case study does not prove a cause-effect relationship between the professional development certification program and increased online student completion and success rates at this institution. The findings do, however, suggest that the professional development certification program contributes to increased course completion and academic success in online courses. As such, it opens the door to additional research in this area. The following list suggests ideas for further research that would contribute additional insights regarding the effect of professional development programs on student completion and success.

Recommendations for future research at Midwestern community college. These suggestions build off the findings of this study and are pertinent to this particular professional development certification program at this specific institution.

- At this point, this professional development certification program has only been offered for 3 years at this particular institution. A longitudinal study

could be beneficial in looking at whether the gains from completing the program are short-term or if long-term increases will continue.

- The findings suggest that the best practice of providing a professional development certification program was beneficial for online student completion and success rates. However, this study made no attempt to disaggregate data based on the duration of the course, such as full semester versus 8 week or 12 weeks. Future research may wish to look at the whether the length of time for an online course affects student completion and success and how this may interact with completion of the professional development certification program.
- The findings suggest that the best practice of providing a professional development certification program was beneficial for online student completion and success rates. Further insights might be helpful to analyze whether this program geared towards teaching in the online environment also influences student completion and success in the instructor's face-to-face classes.
- Research indicates student satisfaction and perception of quality instruction is a factor in student retention for online courses (Aragon & Johnson, 2008; Park & Choi, 2009; "Taking a Holistic View," 2006). Additional studies that examine whether an instructor's completion of the professional development certification program contributes to increased student satisfaction with online courses would be beneficial.

- It would be beneficial to identify if any of the specific aspects of this professional development certification program were particularly beneficial to the instructors. A study could be conducted to examine specific parts of the program, such as the theory regarding teaching in the online environment, the application of the theory, or the concrete hands-on competencies that were completed in sandbox courses throughout the program. This could lead to increased knowledge regarding best practices for professional development that would inform training decisions at Midwestern. This might also lead to implementation of similar programs at other institutions.

Recommendations for future research across higher education institutions. These suggestions build off the findings of this study and are pertinent to a larger audience, including any institution that offers online courses or administrators responsible for providing professional development at their institution.

- The findings suggest that the best practice of providing a professional development certification program was beneficial for online student completion and success rates at this particular Midwestern community college. Further research is warranted to determine whether other institutions offer similar professional development programs and, if so, whether or not they have evaluated their programs. A comparison across several institutions of whether professional development initiatives are linked to increased online student completion and success rates would be beneficial.

- Research indicates student completion and success rates may be lower for part-time instructors than for their full-time counterparts (Jaeger & Eagan, 2009). While the findings of this study suggest that the best practice of providing a professional development certification program was beneficial for online student completion and success rates, there were not enough subjects in this study to disaggregate data based on the employment status of the instructor. Given the prevalence of part-time instructors teaching online courses, it would be worthwhile to compare student completion and student success rates for full-time instructors and part-time instructors. Future research may wish to look at whether the benefits of professional development programs differ for full-time and part-time faculty members.
- The findings suggest that the best practice of providing a professional development certification program was beneficial for online student completion and success rates. The professional development certification program in this case study was voluntary for faculty. Future research may wish to examine whether results vary when professional development programs are mandatory versus optional.

Conclusion

Distance education is a vital segment of higher education. As the enrollment in online offerings increases, particularly at community colleges, administrators are challenged to hire faculty who are not only knowledgeable in their content area, but also qualified to teach in the online environment. This has led to an increase in part-time instructors teaching online courses at community colleges. Not only are online offerings

challenged with high drop-out rates, a prevalent assumption is that students experience lower success rates with part-time faculty members than with full-time faculty.

Community college administrators overseeing online programs need to concentrate their efforts and resources on training and supporting their full-time and their part-time instructors because the quality of their program is based upon their faculty's performance. The literature indicates that a best practice in online education to facilitate student learning success is to provide professional development opportunities for faculty. The best way for community colleges to address low retention and high attrition in online programs is to provide faculty development programs for their online instructors and to evaluate whether these professional development programs influence student completion rates and the level of student success.

This case study utilized two statistical analyses to test whether a best practice professional development certification program contributes to increased online student completion and success rates at Midwestern community college. The results of this study substantiate the claim that the professional development certification program may be a best educational practice at Midwestern community college.

References

Allen, I. E., & Seaman, J. (2014). *Grade change – Tracking online education in the United States.* Babson Park, MA: Babson Survey Research Group and Quahog Research Group. Retrieved from http://www.onlinelearningsurvey.com/reports/gradechange.pdf

American Association of Community Colleges. (2012). *Reclaiming the American dream: A report from the 21st-Century Commission on the Future of Community Colleges.* Washington, DC: Author. Available from http://www.insidehighered.com/sites/default/server_files/files/21stCentReport.pdf

Aragon, S. R., & Johnson, E. S. (2008). Factors influencing completion and noncompletion of community college online courses. *American Journal of Distance Education, 22*(3), 146-158. doi:10.1080/08923640802239962

Arendale, D. (2015). "What is a best educational practice?" Retrieved from http://www.besteducationpractices.org/what-is-a-best-practice/

Bedford, L. A. (2009). The professional adjunct: An emerging trend in online instruction. *Online Journal of Distance Learning Administration, 12*(3). Retrieved from http://www.westga.edu/~distance/ojdla/fall123/bedford123.pdf

Betts, K. S., & Sikorski, B. (2008). Financial bottom line: Estimating the cost of faculty/adjunct turnover and attrition for online programs. *Online Journal of Distance Learning Administration, 11*(1). Retrieved from http://www.westga.edu/~distance/ojdla/spring111/betts111.pdf

Bretschneider, S., Marc-Aurele Jr., F. J., & Wu, Jiannan. (2005). “Best Practices” research: A methodological guide for the perplexed. *Journal of Public Administration Research and Theory, Inc., 15*(2), 307-323.

Carnevale, D., & Olsen, F. (2003). How to succeed in distance education. *Chronicle of Higher Education*, *49*(40), A31.

Cejda, B. (2010). Online education in community colleges. *New Directions for Community Colleges*, (150), 7-16. doi:10.1002/cc.400

Clay, M. (1999). Development of training and support programs for distance education instructors. *Online Journal of Distance Learning Administration, 2*(3). Retrieved from http://www.westga.edu/~distance/ojdla/fall23/clay23.pdf

Clinefelter, D. (2012). *Best practices in online faculty development*. Whitepaper retrieved from The Learning House, Inc. Retrieved from http://www.learninghouse.com/wp-content/uploads/2012/10/Best-Practices-for-Online-Faculty-Development_Web_Final.pdf

Coburn-Collins, A. (2014). *Best practices for supporting adjunct faculty*. Retrieved from the Higher Learning Commission Collection of Papers: http://cop.hlcommission.org/Learning-Environments/coburn-collins.html

Cohen, A. M., & Brawer, F. B. (2008). *The American community college* (5th ed.). San Francisco, CA: Jossey-Bass.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Conley, V. M., Leslie, D. W., & Zimbler, L. J. (2002). *Part-time instructional faculty and staff: Who they are, what they do, and what they think*. Jessup, MD: ED Pubs.

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among the five approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications.

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches* (4th ed.). Thousand Oaks, CA: SAGE Publications.

Cumming, G. (2014). The new statistics: Why and how. *Psychological Science*, *25*, 7-29.

de la Vergne, S. (2012). Why colleges should invest in the development of adjuncts. *Chronicle of Higher Education*, *58*(18), D13-D14.

DeMaria, R., & Bongiovanni, T. (2012). Dispelling myths about online education. *BizEd*, *11*(2), 36-40.

Dillon, C. L., & Cintrón, R. (1997). Distance education and the community college: From convention to vision. *New Directions for Community Colleges*, (99), 93-102.

Easterday, N. (1997). Distance education and 2-year colleges. *Community College Journal of Research & Practice*, *21*(1), 23-36.

Eddy, P. L. (2007). Faculty development in rural community colleges. *New Directions for Community Colleges*, (137), 65-76. doi:10.1002/cc.271

Elizaga, R. A., & Haynes, T. (2013). Ties that bind: Enhancing feelings of connectivity with an adjunct faculty learning community. In S. Sipple & R. Lightner (Eds.), *Developing faculty learning communities at two-year colleges: Collaborative models to improve teaching and learning* (pp. 77-92). Sterling, VA: Stylus Publishing.

Gadberry, J., & Burnstad, H. (2005). Integrating adjuncts into the community through professional development, support. *Academic Leader*, *21*(7), 1-6.

Gall, M. D., Gall, J. P., & Borg, W. R. (2003). *Educational research: An introduction*. Boston, MA: Allyn and Bacon.

Gay, L. R., Mills, G. E., & Airasian, P. (2006). *Educational research: Competencies for analysis and applications*. Upper Saddle River, NJ: Pearson Education.

Geller, H. A. (2001). A brief history of community colleges and a personal view of some issues (open admissions, occupational training, and leadership). Fairfax, VA: George Mason University. (ERIC Document Reproduction Service No. ED459881). Retrieved from http://www.eric.ed.gov/PDFS/ED459881.pdf

Gerrain, D. (2004). Online courses offer key to adjunct training. *Community College Week, 16*(16), 8.

Gravetter, F. J., and Wallnau, L. B. (2009). *Statistics for the Behavioral Sciences* (8th ed.). Belmont, CA: Wadsworth/Cengage Learning.

Green, D. W. (2007). Adjunct faculty and the continuing quest for quality. *New Directions for Community Colleges*, (140), 29-39.

Higher Learning Commission (HLC). (2015). Background information on distance and correspondence education. Retrieved from https://www.hlcommission.org/Monitoring/distance-delivery.html

Hill, C. (Ed.). (2009). *Faculty focus: Best practices for training and retaining online adjunct faculty*. Madison, WI: Magna Publications.

Holder, B. (2007). An investigation of hope, academics, environment, and motivation as predictors of persistence in higher education online programs. *Internet & Higher Education*, *10*(4), 245-260. doi:10.1016/j.iheduc.2007.08.002

How to get the best out of online adjuncts. (2009). *Distance Education Report*, *13*(2), 3-7.

Hoyle, J. (2010). The trials and accomplishments of an online adjunct faculty member. *New Directions for Community Colleges*, (150), 37-42. doi:10.1002/cc.403

Husmann, D. E., & Miller, M. T. (2001). Improving distance education: Perceptions of program administrators. *Online Journal of Distance Learning Administration, 4*(3). Retrieved from http://www.westga.edu/~distance/ojdla/fall43/husmann43.pdf

The Indiana Wesleyan model for online faculty training. (2005). *Distance Education Report*, *9*(13), 4-5.

Jaeger, A. J., & Eagan, J. (2009). Examining the effect of part-time faculty members on associate's degree completion. *Community College Review*, *36*(3), 167-194.

June, A. W. (2013). Adjunct orientations take hold, with a variety of approaches. *Chronicle of Higher Education, 59*(26), A14.

Kelly, R. (2012). Adjunct professional development improves teaching, builds community. *Academic Leader*, *28*(4), 8.

Kozeracki, C. A. (1999). Scratching the surface: Distance education in the community colleges. *New Directions for Community Colleges*, (108), 89.

Leslie, D. & Gappa, J. (1994). Education's new academic work force. In G. Keller (Ed.), *The best of planning for higher education: An anthology of articles from the Premier Journal in Higher Education Planning* (pp. 61-66). Ann Arbor, MI: Society for College and University Planning.

Liebhaber, K. P. (2011). Retaining distance adjuncts. *Distance Education Report, 15*(20), 4-7.

Lorenzetti, J. P. (2007). The virtual faculty lounge: Providing online faculty development for adjunct instructors. *Distance Education Report, 11*(3), 4-8.

Lorenzetti, J. P. (2013). Six steps to growing your own blended faculty. *Distance Education Report, 17*(20), 4-6.

Maguire, L. L. (2005). Faculty participation in online distance education: Barriers and motivators. *Online Journal of Distance Learning Administration, 8*(1). Retrieved from http://www.westga.edu/~distance/ojdla/spring81/maguire81.pdf

Maier, T. (2001). Distance education and the little red cyber schoolhouse. *Community College Week, 13*(21), 4.

Marble, T., & Case, P. (2013a). Part 1: Turbo-boost your onboarding of new online adjunct faculty. *Distance Education Report, 17*(17), 5.

Marble, T., & Case, P. (2013b). Part 2: Turbo-boost your onboarding of new online adjunct faculty. *Distance Education Report, 17*(19), 4-8.

Mauchly, J. (1940). Significance test for sphericity of a normal *n*-variate distribution. *The Annals of Mathematical Statistics, 11*(2), 204-209. Retrieved from http://0-www.jstor.org.library.unl.edu/stable/2235878

Murray, J. P. (2002a). Faculty development in SACS-accredited community colleges. *Community College Review*, *29*(4), 50-66. Retrieved from http://crw.sagepub.com/content/29/4/50

Murray, J. P. (2002b). The current state of faculty development in two-year colleges. *New Directions for Community Colleges*, (118), 89-95.

Murray, J. P. (2007). Recruiting and retaining rural community college faculty. *New Directions for Community Colleges*, (137), 57-64. doi:10.1002/cc.270

Nine practical ideas for training and retaining online adjuncts. (2010). *Distance Education Report, 14*(3), 1-7.

Offerman, D. (2010). Adjunct faculty in online education: Expectations, accountability and quality assurance. *Distance Education Report, 14*(4), 5-7.

Ongaro, E. (2009). A protocol for the extrapolation of 'Best' Practices: How to draw lessons from one experience to improve public management in another situation. Paper presented at the European Public Sector Award 2009, Final Symposium and Ceremony, Maastricht. Retrieved from http://epsa2009.eu/files/Symposium/An%20approach%20to%20the%20extrapolation%20 of%20practices_EOngaro.pdf

Park, J., & Choi, H. J. (2009). Factors influencing adult learners' decision to drop out or persist in online learning. *Journal of Educational Technology & Society*, *12*(4), 207-217.

Pritschet, L., Powell, D., & Horne, Z. (2016). Marginally significant effects as evidence for hypotheses: Changing attitudes over four decades. *Psychological Science*, *27*(7), 1036-1042.

Puzziferro-Schnitzer, M. (2005). Managing virtual adjunct faculty: Applying the seven principles of good practice. *Online Journal of Distance Learning Administration, 8*(2). Retrieved from http://www.westga.edu/~distance/ojdla/summer82/schnitzer82.pdf

Rahman, M. (2001). Faculty recruitment strategies for online programs. *Online Journal of Distance Learning Administration, 4*(4). Retrieved from http://www.westga.edu/~distance/ojdla/winter44/rahman44.html

Rosnow, R. L., & Rosenthal, R. (1989). Statistical procedures and the justification of knowledge in psychological science. *American Psychologist, 44*, 1276-1284.

Rovai, A. P. (2003). In search of higher persistence rates in distance education online programs. *Internet & Higher Education, 6*(1), 1-16.

Sammons, M. C., & Ruth, S. (2007). The invisible professor and the future of virtual faculty. *International Journal of Instructional Technology & Distance Learning, 4*(1). Retrieved from http://www.itdl.org/Journal/Jan_07/article01.htm

Santovec, M. (2004). Building better online adjuncts. *Distance Education Report, 8*(9), 8.

Sawyer, J. O., Kata, M. L., & Armstrong, D. L. (2014). Adjunct faculty: Engagement and community through professional development. Retrieved from the Higher Learning Commission Collection of Papers: http://cop.hlcommission.org/Learning-Environments/sawyer.html

Schmidt, P. (2008). Use of part-time instructors tied to lower student success. (Cover story). *Chronicle of Higher Education, 55*(12), A1-A10.

Schnitzer, M., & Crosby, L. S. (2003). Recruitment and development of online adjunct instructors. *Online Journal of Distance Learning Administration, Volume 6*(2). Retrieved from http://www.westga.edu/~distance/ojdla/summer62/crosby_schnitzer62.html

Shah, B., Morgan, K. C., Stone, D. E., & Sterling, D. (2014). Try TADL: The award-winning faculty development program. *Distance Education Report, 18*(6), 5-8.

Shattuck, K. (2009). Faculty development: More best practices. *Distance Education Report, 13*(18), 3-6.

Sixl-Daniell, K., Williams, J. B., & Wong, A. (2006). A quality assurance framework for recruiting, training (and retaining) virtual adjunct faculty. *Online Journal of Distance Learning Administration, 9(1)*. Retrieved from http://www.westga.edu/~distance/ojdla/spring91/daniell91.htm

Stover, C. (2005). Measuring--and understanding--student retention. *Distance Education Report, 9*(16), 1-7.

Strycker, W. K. (2008). Recruiting and maintaining adjunct faculty. *Madison Area Technical College*. Retrieved from http://www.pcrest3.com/fgb/efgb4/1/1_3_5.htm

Stumpf, A. D., McCrimon, E., & Davis, J. E. (2005). Carpe diem: Overcome misconceptions in community college distance learning. *Community College Journal of Research & Practice, 29*(5), 357-367. doi:10.1080/10668920590921552

Sull, E. C. (2007). Veteran online teachers: Regular retraining is important! *Online Classroom,* 6-7.

Taking a holistic view of online student retention. (Cover story). (2006). *Recruitment & Retention in Higher Education, 20*(6), 1-4.

Taylor, S. (2002). Education online: Off course or on track? *Community College Week, 14*(20), 10.

Ten things you can do to retain your best adjuncts. (2006). *Academic Leader, 22*(10), 1.

Tipple. R. (2010). Effective leadership of online adjunct faculty. *Online Journal of Distance Learning Administration, 8(1).* Retrieved from http://www.westga.edu/~distance/ojdla/spring131/tipple131.pdf

Tutty, J., & Ratliff, J. (2012). Techniques for improving online community college completion rates: Narrow the path? *Community College Journal of Research & Practice, 36*(11), 916-920. doi:10.1080/10668926.2012.692300

Vail, K. (2006). A system for managing online faculty. *Distance Education Report, 10*(1), 4-7.

Velez, A. M. (2009). The ties that bind: How faculty learning communities connect online adjuncts to their virtual institutions. *Online Journal of Distance Learning Administration, 7(2).* Retrieved from http://www.westga.edu/~distance/ojdla/summer122/velez122.pdf

Weaver, D., Robbie, D., & Borland, R. (2008). The practitioner's model: Designing a professional development program for online teaching. *International Journal on ELearning, 7*(4), 759-774.

Yang, Y. & Cornelious, L. F. (2005). Preparing instructors for quality online instruction. *Online Journal of Distance Learning Administration, 8(1)*. Retrieved from http://www.westga.edu/~distance/ojdla/spring81/yang81.htm

Yee, J. A. (1998). Distance learning and community colleges. *Community College Journal of Research & Practice, 22*(5), 563-567.

Zemelman, S., Daniels, H., & Hyde, A. (2005). *Best practice: Today's standards for teaching and learning in America's schools* (3rd ed.). Portsmouth, NH: Heinemann.

APPENDIX A:

PROFESSIONAL DEVELOPMENT PROGRAM SYLLABUS

MIDWESTERN COMMUNITY COLLEGE
COURSE SYLLABUS

COURSE IDENTIFICATION

Course Code/Number:	NC 201
Course Title:	Online and Hybrid Instructor Certification
Division:	Online Campus
Credit Hours:	Non-credit Course
Effective Date:	Summer 2015

COURSE DESCRIPTION
This course is designed for faculty who desire to teach in the online environment. This course will provide instruction on designing, teaching, and evaluating online and hybrid courses at *Midwestern Community College*.

MINIMUM REQUIREMENTS/PREREQUISITES AND/OR COREQUISITES
Prior teaching experience, as well as basic knowledge of *the Learning Management System* is helpful, but not required. It is expected that participants in this course will have knowledge in their content area.

TEXTS
All readings and resources will be provided.

COURSE OUTCOMES/COMPETENCIES (as Required)
At the end of this course, a student should be able to do the following:

OUTCOME 1: Demonstrate a basic understanding of the course template.

a. Learn the Benefits of using Consistent Navigation.
b. Learn about *Midwestern Community College*'s Course Template.
c. Learn about *Midwestern Community College*'s Branding and Publications Standards.

OUTCOME 2: Demonstrate an understanding of instructional design practices and how they assist with designing online and hybrid courses.

a. Learn about the ADDIE model.
b. Learn about the Backward Design Approach.
c. Learn the importance of Chunking, Redundancy, and the Rule of Three Clicks.
d. Identify and differentiate the various methods of student learning.
e. Identify and differentiate the various methods of teaching styles.
f. Explore individual learning style and primary teaching style.
g. Demonstrate how *the Learning Management System* can be utilized to teach to a variety of learning styles.

OUTCOME 3: Demonstrate an understanding of the course planning process.

a. Understand the importance of course planning.
b. Complete a Content Map.
c. Reflect on Student Requirements.

OUTCOME 4: Demonstrate an understanding of effective course design.

a. Learn about the Flipped Learning approach as it applies to hybrid courses.
b. Evaluate reusable learning objects such as those available from Merlot, OER, Commons, and OCW.
c. Identify a variety of quality materials to be utilized for instructional purposes.
d. Create a rubric for use in an online or hybrid course.
e. Reflect on Instructor "Presence" in the online environment.

OUTCOME 5: Demonstrate appropriate use of content in the online environment.

a. Explore Web 2.0 tools and evaluate their potential effectiveness in the classroom.
b. Create a video for use in an online or hybrid classroom.
c. Learn about copyright law, including elements of the TEACH Act.
d. Learn about the Americans with Disabilities Act and 504 Accommodations.
e. Learn how to incorporate copyright-free content into the online and hybrid classroom.

OUTCOME 6: Demonstrate the importance of continuous course improvement.

a. Learn about *Midwestern Community College*'s Best Practices for Online and Hybrid Courses.
b. Utilize Form D (Online and Hybrid Course Evaluation) to evaluate personal ideas for the online environment.
c. Participate in a collaborative exchange about continuous course improvement.

OUTCOME 7: Demonstrate the importance of interaction in the online environment

a. Understand the importance of interaction in the online environment.
b. Utilize forums to effectively communicate with others.
c. Collaborate with peers by sharing ideas in an asynchronous space.

OUTCOME 8: Demonstrate effective utilization of *the Learning Management System*.

a. Add Non-Roster Students and set Permissions.
b. Create Content in a Custom Content Portlet (About this Course).
c. Work with the Image Upload Tool.
d. Create a Blog Post in the News Portlet.
e. Utilize Usage Statistics.
f. Add a Handout in the Handouts Portlet (Downloadable Versions).
g. Configure the External Content Portlet (Syllabus).
h. Add a Handout in the Handouts Portlet.
i. Add a Bookmark in the Bookmarks Portlet.
j. Create a New Page (RSS Feed).

k. Add a Portlet to a Page.
l. Configure the RSS Feed Reader Portlet.
m. Create a Forum Topic.
n. Embed a Video in a Text Box (Forums, Coursework, etc.).
o. Work with the four types of Coursework Assignments.
p. Set Letter Grade Ranges.
q. Set Final Grade Weighting.
r. Utilize Role Emulation to View Course as a Student.

MINIMUM COURSE CONTENT

Two general areas of content will be emphasized in this course: best practices as they relate to instruction in distance education and utilizing *the Learning Management System* to implement them in your online and hybrid courses. To achieve mastery of both areas, this course is designed to be a blend of theory and practical application.

STUDENT REQUIREMENTS AND METHOD OF EVALUATION

90 – 100 % A
80 – 89 % B
70 – 79 % C
60 – 69 % D
0 – 59 % F

Participants wishing to receive their Online and Hybrid Instructor Certification must achieve an overall percentage of 94% or higher.

ASSESSMENT OF STUDENT GAIN

The purpose of assessing student learning at *Midwestern Community College* is to ensure the educational purposes of the institution are met and appropriate changes are made in program development and classroom instruction to allow for student success. The instructor(s) of this course will determine the methods of assessment most appropriate and will continually evaluate the quality of this course and its content.

ACADEMIC INTEGRITY

Midwestern Community College expects every student to demonstrate ethical behavior with regard to academic pursuits. Academic integrity in coursework is a specific requirement. Definitions, examples, and possible consequences for violations of Academic Integrity, as well as the appeals process, can be found in the College Catalog, Student Handbook, and/or Code of Student Conduct and Discipline.

NOTE:

Information and statements in this document are subject to change at the discretion of *Midwestern Community College*. Students will be notified of changes and where

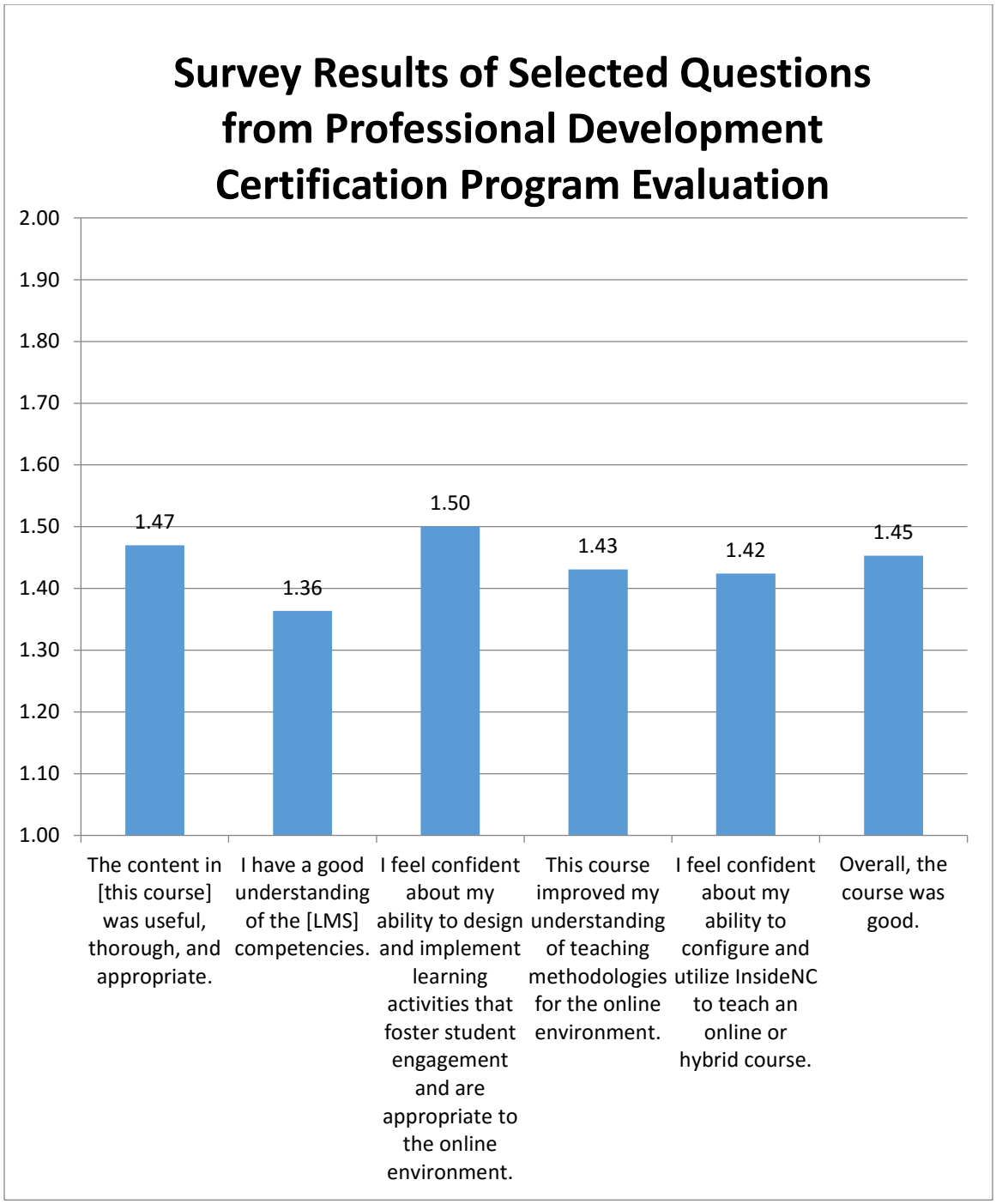
to find the most current approved documents.

NOTE:
If you are a student with a disability who may need accommodation(s) under the Americans with Disabilities Act (ADA), please visit with the *college administrator*, who can assist you in arranging any necessary accommodations.

APPENDIX B:

PROFESSIONAL DEVELOPMENT CERTIFICATION PROGRAM

EVALUATION RESULTS: QUESTION ANALYSIS



On this survey, available responses for each of the statements were “Strongly Agree”, “Agree”, “Disagree”, “Strongly Disagree”, and “Not Applicable”. Responses were coded in the following method: “Strongly Agree” = 1, “Agree” = 2, “Disagree” = 3, “Strongly Disagree” = 4, and “Not Applicable” were omitted from the calculation. Composite scores of less than 2 point to participant agreement, while scores greater than 2 signify disagreement. Scores closer to 1 show a stronger agreement with the statement than scores closer to 2.

APPENDIX C:

PROFESSIONAL DEVELOPMENT CERTIFICATION PROGRAM

EVALUATION RESULTS: PARTICIPANT COMMENTS

Midwestern Community College Professional Development Program for Certified Online Instructors Evaluation Comments
What is your evaluation of this course? Please base your answer upon: A. Your satisfaction with what you got out of this course and B. Whether it was a valuable educational experience or a disappointment.
5/17/2014 3:26 PM -- I found the content beneficial and I plan to integrate this into my own [LMS] courses immediately.
5/18/2014 4:24 PM -- I felt the course was a good tool to introduce new instructors to [the LMS], as well as a good tool to grow current instructors knowledge.
5/18/2014 5:12 PM -- I am satisfied with what I learned. It was very much a valuable educational experience!
5/21/2014 12:41 PM -- I got a lot out of this course - most of my complaints involve the [the LMS] interface, which I think is a little clunky and not intuitive. I do think this was a valuable educational experience, especially since I was exposed to some instructional design theory that will help me in the future.
5/23/2014 6:03 PM -- Overall I think the course was both valuable and satisfying, providing information and instruction on a variety of new ideas for inclusion in the online course.
5/23/2014 6:20 PM -- A" very satisfied with the course. It was a great course
5/23/2014 9:28 AM -- I feel much stronger in my skills and abilities as an online/hybrid instructor.
5/24/2014 5:48 PM -- I found the course most valuable as I continued to learn new technologies and approaches that continually enhance the online experience
5/25/2014 10:14 AM -- The course and its instructors were fantastic! Enough said.
5/26/2014 4:43 PM -- I would recommend it to anyone teaching a hybrid or online course.
5/27/2014 9:07 PM -- Great course. I was happy with everything I got out of the course, even those assignments I did not like. It was definitely a valuable experience.
5/29/2014 5:45 PM -- Thank you so much for all of your help throughout this course, even though I have been teaching quite a while, it was a great learning experience.
5/29/2014 5:47 PM -- I am very satisfied with this course. Yes, it was a very valuable experience.
7/16/2014 8:20 PM -- I am very satisfied with my new ability to navigate around the course room. This course was very valuable because I am so much more familiar with how to use [the LMS].
7/18/2014 11:32 AM -- Overall, I though the course was excellent. It really did a good job of boosting my confidence about creating my own course.
7/22/2014 3:46 PM -- Very Satisfied with course and glad to have the opportunity to take it.
7/23/2014 2:37 PM -- I am pretty satisfied with how much I got from this course. I feel like it was very valuable.

7/27/2014 10:57 PM -- I do wish I had the opportunity to take this prior to teaching the first on-line class, more things would have made sense.
11/16/2014 4:40 PM -- High satisfied and valuable. Very glad this opportunity was offered to me!
11/18/2014 2:28 PM -- I found the course a valuable tool to become a better instructor. I think all instructors should be required to take this class.
11/22/2014 11:25 PM -- This course provided all the materials needed to improve my online course to meet the best practice standards here at [this institution].
11/23/2014 5:27 PM -- I had very minimal knowledge of [the LMS] prior to taking this course. It taught me a great deal of tools and resources available for course development as well as confidence to navigate comfortably within [the LMS].
11/23/2014 8:20 PM -- I gained much knowledge from this course. It was a valuable experience.
11/23/2014 9:19 PM -- This was a great experience. I would strongly encourage to all instructors.
11/23/2014 9:21 PM -- This was a very valuable experience. I think this should be a mandatory class for all instructors.
7/15/2015 12:49 PM -- I learned a lot from this course that I can apply directly to the courses I am currently teaching and may teach in the future.
7/30/2015 1:34 PM -- Great course, learned a lot!
7/30/2015 1:39 PM -- I am very satisfied with the class and what I was able to learn. I found the information to be very valuable and never felt like what I was learning was a waste of my time.
8/2/2015 7:08 PM -- Satisfied, valuable
8/2/2015 7:26 PM -- I am more than satisfied with what I got out of the course. I reaffirmed some knowledge I had about [the LMS} and learned additional knowledge that I was unaware of. I also learned a great deal about tools and methods to use for teaching online or hybrid, which can also be used in a fashion in a f2f class. I won't hesitate to say that I found this one of the most valuable educational experiences I have had for some time.
11/16/2015 1:52 PM -- This course was very beneficial and I learned so much about designing a course and [the LMS]. I am glad that I took the course. It will help me in setting up online and face to face classes.
11/16/2015 2:20 PM -- Great course but sometimes was a bit overwhelming with the information. Would like to see this course offered during the Summer break for other instructors to take part in. Requires a great deal of time for the assignments. I feel more ready for teaching at [this institution] this coming Spring after taking this course! Thank you for allowing me to take this course. I feel everyone hired as an instructor should take this course.
11/16/2015 8:49 PM -- A: I learned a lot of navigational information and settings, I believe this course has prepared me to make adjustments in my on-line course to foster student learning to the best of my abilities.
11/17/2015 10:16 PM -- I am satisfied with what I got out of this course and it was a valuable educational experience. I think all [institution] instructors should take it.

5/2/2016 2:04 PM -- I am very satisfied with [this course] and what I got out of it. This course exceeded my expectations considerably, which is no small feat, given that I'd been teaching online and was familiar with [the LMS] for some time. This course is most definitely worthwhile. I should note that this course is more rigorous than all of the continuing ed "graduate" courses in pedagogy that I've taken through [other institution] over the years. (The one exception to that has been my graduate history course I took last Fall, but that's the ONLY exception). Certainly, the homework load in [this course] exceeded that of most of my [other institution] courses. As far as level of rigor among professional development courses I've taken, [this course] either ties for first, or comes in a close 2nd.
7/25/2016 11:52 PM -- Very helpful, useful, all online instructors should take this early in their online instruction careers. I learned tons!
7/25/2016 11:54 PM -- I loved this course and would recommend it highly to other instructors.
8/1/2016 11:34 PM -- excellent instructors, well organized and supportive
8/4/2016 07:43 AM -- Excellent topics/skills related to online teaching; would have preferred more repetition on past skills as we began using newer ones. Extremely relevant to educating me on skills necessary to be a more effective online instructor. Perhaps certain skills need a higher standard of expertise to teach more "involved" courses....???
8/4/2016 8:27 AM -- I have little doubt that I learned more than any other student in the class. I am extremely satisfied with the class and especially with the facilitators as it was a valuable educational experience.
8/4/2016 10:22 AM -- I would give it an [*sic*] very high grade. In my opinion this is a very complex course attempting to teach a diverse audience on how to obtain more than basic tech competencies. It is very well done and I was very pleased in how the material was presented and broken down. I feel confident that I am competent enough to be a more effective teacher--regardless of the instructional delivery methodology involved, as a result of this course. It was an extremely valuable experience. I never ever worked so hard, so long nor felt as frustrated, exasperated, disheartened, mad, tearful, incompetent, scared or as pleased, joyous and victorious as when tacking this course. I needed it. It reminded me that despite what hiring people think and practice, being in your 60's isn't old anymore. I continue to have an immense passion to teach and help make a difference for students. Perhaps I'll have the chance.
8/5/2016 12:33 PM -- I really did enjoy the course and felt like I got a lot out of it. It was a valuable educational experience.
8/5/2016 2:13 PM -- Excellent class.
8/5/2016 6:33 PM -- Great class!
8/6/2016 11:02 PM -- I found this course very helpful and adequately provided me many necessary tools to enhance my performance as an instructor.

APPENDIX D:

UNIVERSITY OF NEBRASKA – LINCOLN

INSTITUTIONAL REVIEW BOARD APPROVAL LETTER

University of Nebraska Lincoln

Official Approval Letter for IRB project #16512 - New Project Form

September 30, 2016

Marie Gardner
Department of Educational Administration

Brent Cejda
Department of Educational Administration
141C TEAC, UNL, 68588-0360

IRB Number: 20160916512 EX
Project ID: 16512
Project Title: An Investigation of the Impact of a Faculty Development Program for Instructors Teaching in the Online Environment on Student Completion and Success Rates at a Midwestern Community College

Dear Marie:

This letter is to officially notify you of the certification of exemption of your project. Your proposal is in compliance with this institution's Federal Wide Assurance 00002258 and the DHHS Regulations for the Protection of Human Subjects (45 CFR 46) and has been classified as exempt.

You are authorized to implement this study as of the Date of Final Exemption: 09/30/2016.

o Review conducted using Exempt category 4 at 45 CFR 46.101
o Date of Final Exemption: 9/30/2016
o Funding: N/A

We wish to remind you that the principal investigator is responsible for reporting to this Board any of the following events within 48 hours of the event:
* Any serious event (including on-site and off-site adverse events, injuries, side effects, deaths, or other problems) which in the opinion of the local investigator was unanticipated, involved risk to subjects or others, and was possibly related to the research procedures;
* Any serious accidental or unintentional change to the IRB-approved protocol that involves risk or has the potential to recur;
* Any publication in the literature, safety monitoring report, interim result or other finding that indicates an unexpected change to the risk/benefit ratio of the research;
* Any breach in confidentiality or compromise in data privacy related to the subject or others; or
* Any complaint of a subject that indicates an unanticipated risk or that cannot be resolved by the research staff.

This project should be conducted in full accordance with all applicable sections of the IRB Guidelines and you should notify the IRB immediately of any proposed changes that may affect the exempt status of your research project. You should report any unanticipated problems involving risks to the participants or others to the Board.

If you have any questions, please contact the IRB office at 402-472-6965.

Sincerely,

Becky R. Freeman

Becky R. Freeman, CIP
for the IRB

APPENDIX E:

ONLINE STUDENT COMPLETION DATA: T-TEST

Online Student Completion Data

Used in *t*-Test Analysis

Certified Instructor	Before	After
1	0.8909	1.0000
2	0.9186	0.9911
3	0.8659	0.9475
4	0.9278	0.8710
5	0.9015	0.9209
6	0.9086	0.8462
7	0.9526	0.9703
8	0.8868	0.8987
9	0.9514	0.9823
10	0.8129	0.8571
11	0.9231	0.9292
12	0.9608	0.9821
13	0.9048	0.8723
14	0.9224	0.9352
15	0.9706	1.0000
16	0.9138	1.0000
17	0.9592	1.0000
18	0.9459	1.0000
19	0.9514	1.0000
20	0.9487	0.8636
21	0.9444	0.7895
22	0.9477	0.9714
23	0.9375	0.9688
24	0.9331	0.9655
25	0.9257	1.0000
26	0.9598	0.9785
27	0.9375	0.9805
28	0.9474	0.9286
29	1.0000	1.0000
30	0.9231	0.9902
31	0.9630	1.0000
32	1.0000	1.0000

APPENDIX F:

ONLINE STUDENT SUCCESS DATA: T-TEST

Online Student Success Data

Used in *t*-Test Analysis

Certified Instructor	Before	After
1	2.6735	2.8421
2	2.9367	3.2793
3	2.4401	2.9055
4	2.5410	2.3457
5	3.1632	3.0675
6	2.9349	2.5455
7	2.8159	2.7755
8	2.8298	3.2255
9	3.2045	3.1667
10	1.8584	2.0926
11	2.0833	2.1048
12	3.2530	3.3942
13	1.9211	2.9268
14	2.7649	2.9307
15	3.3333	2.7368
16	2.1887	2.8947
17	3.2766	2.7857
18	2.8000	2.2222
19	3.1350	3.0000
20	1.5135	2.2000
21	2.3529	3.3000
22	3.0015	3.1373
23	2.6413	3.2581
24	2.7130	2.7857
25	2.7110	3.0000
26	3.2176	3.5769
27	3.0000	3.2715
28	2.2778	2.3846
29	4.0000	3.9143
30	3.0833	2.8812
31	2.7308	3.0741
32	3.2222	3.2000

APPENDIX G:

ONLINE STUDENT COMPLETION DATA: ANOVA

Online Student Completion Data

Used in ANOVA Analysis

Certified Instructor	Before	During	After
1	0.8696	1.0000	1.0000
2	0.8929	0.9667	0.9911
3	0.8585	1.0000	0.9475
4	0.9259	0.9500	0.8710
5	0.9039	0.8500	0.9209
6	0.9074	0.9167	0.8462
7	0.9485	1.0000	0.9703
8	0.8710	0.9091	0.8987
9	0.9483	0.9756	0.9823
10	0.7925	0.8788	0.8571
11	0.8750	1.0000	0.9292
12	0.9605	0.9643	0.9821
13	0.8857	1.0000	0.8723
14	0.9186	0.9474	0.9352
16	0.8889	1.0000	1.0000
17	0.9524	1.0000	1.0000
20	0.9167	1.0000	0.8636
21	0.8571	1.0000	0.7895
22	0.9510	0.9091	0.9714
23	0.9412	0.9149	0.9688
25	0.9167	0.9841	1.0000
26	0.9563	1.0000	0.9785
31	0.9500	1.0000	1.0000

APPENDIX H:

ONLINE STUDENT SUCCESS DATA: ANOVA

Online Student Success Data

Used in ANOVA Analysis

Certified Instructor	Before	During	After
1	2.5750	3.1111	2.8421
2	2.9200	2.9655	3.2793
3	2.4120	2.8824	2.9055
4	2.5378	2.5789	2.3457
5	3.1729	2.9412	3.0675
6	2.9252	3.0000	2.5455
7	2.7772	3.2353	2.7755
8	2.5926	3.1500	3.2255
9	3.2115	3.1500	3.1667
10	1.6310	2.5172	2.0926
11	2.0000	2.2000	2.1048
12	3.2582	3.1852	3.3942
13	1.8710	2.1429	2.9268
14	2.6743	3.3519	2.9307
16	2.2250	2.0769	2.8947
17	3.3000	3.1429	2.7857
20	1.4545	1.6000	2.2000
21	1.5000	2.8182	3.3000
22	2.9551	3.5600	3.1373
23	2.6985	2.2791	3.2581
25	2.7166	2.6774	3.0000
26	3.2026	3.3810	3.5769
31	3.3684	1.0000	3.0741